Ghana

Implications of Health Sector Reform for Contraceptive Logistics

FPLM

Ghana: Implications of Health Sector Reform for Contraceptive Logistics

Yasmin Chandani
Kathryn Crowley
John Durgavich
Ramona Lunt
Paula Nersesian
Norbert Pehe
Timothy Rosche

FPLM

FPLM

The Family Planning Logistics Management (FPLM) project is funded by the Center for Population, Health and Nutrition for the Bureau for Global Programs, Field Support and Research, of the U.S. Agency for International Development (USAID). The agency's Contraceptives and Logistics Management Division provides a centralized system for contraceptive procurement, maintains a database on commodity assistance, and supports a program for contraceptive logistics management.

Implemented by John Snow, Inc. (JSI) (contract no. CCP-C-00-95-00028-00), and subcontractors (The Futures Group International and the Program for Appropriate Technology in Health [PATH]), the FPLM project works to ensure the continuous supply of high-quality health and family planning products in developing countries. FPLM also provides technical management and analysis of two USAID databases, the contraceptive procurement and shipping database (NEWVERN); and the Population, Health, and Nutrition Projects Database (PPD).

Recommended Citation

Chandani, Yasmin, Kathryn Crowley, John Durgavich, Ramona Lunt, Paula Nersesian, Norbert Pehe, and Timothy Rosche. 2000. *Ghana: Implications of Health Sector Reform for Family Planning Logistics*. Arlington: Va.: Family Planning Logistics Management/John Snow, Inc., for the U.S. Agency for International Development (USAID).

Abstract

Ghana: Implications of Health Sector for Contraceptive Logistics is the second in a series of country reports analyzing the implications of health sector reform for contraceptive logistics in developing countries. The study was conducted by the Family Planning Logistics Management project managed by John Snow, Inc., in cooperation with Ghana's Ministry of Health and is based on fieldwork completed in Ghana during October and November 1999.

While health sector reform efforts in Ghana have done no harm to the contraceptive logistics system, they also have not measurably improved it. This situation may be largely attributable to the fact that contraceptive supplies are still exclusively donor-supported and logistics remains vertical.

Donor and country-based decision makers can use this report to identify lessons learned in the design and implementation of HSR programs. Researchers can use it as a reference for methods. The report includes discussions of (1) background and study methods; (2) health sector reform in Ghana; (3) operation of public sector logistics; (4) developments in contraceptive and drug logistics; and (5) findings and recommendations.

FPLM

Family Planning Logistics Management
John Snow, Inc.
1616 North Fort Myer Drive, 11th Floor
Arlington, VA 22209 USA
Phone: 703-528-7474
Fax: 703-528-7480
E-mail: fplm_project@jsi.com
Internet: www.fplm.jsi.com

Contents

Tables

Figures

Acronyms

BMC	Budget and Management Center
CHAG	Christian Health Association of Ghana
CLM	Contraceptive and Logistics Management Division, USAID
CMS	central medical store
CPR	contraceptive prevalence rate
CSP	Contraceptive Supplies Project
CYP	couple-years of protection
DANIDA	Danish International Development Assistance
DFID	British Department for International Development
DHMT	District Health Management Team
DMS	district medical store
EDL	essential drugs list
ERP	Economic Recovery Program
EU	European Union
FH	family health
FPHP	Family Planning and Health Program
FPLM	Family Planning Logistics Management
GHANAPA	Ghana Population and AIDS
GHS	Ghana Health Service
GNDP	Ghana National Drugs Programme
GOG	Government of Ghana
GSC	Ghana Supplies Commission
GSMF	Ghana Social Marketing Foundation
HSR	health sector reform
IGF	internally generated funds
JICA	Japan International Cooperation Agency
LMIS	logistics management information system
MOH	Ministry of Health
MTHS	Medium Term Health Strategy
NDP	National Drugs Policy
NGO	nongovernmental organization
PHN	Population, Health, and Nutrition
POW	Health Sector 5-Year Programme of Work, 1997–2001
PPAG	Planned Parenthood Association of Ghana
RMS	regional medical store
RPM	Rational Pharmaceutical Management
SDHS	Strengthening District Health Systems
SDP	service delivery point
SNV	Netherlands Development Organization
SSDM	Stores, Supplies, and Drug Management
SWAp	sectorwide approach
TFR	total fertility rate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	U. S. Agency for International Development
WHO	World Health Organization
WRA	Women of Reproductive Age

Preface

This report on Ghana is the second in a series of country reports analyzing the implications of health sector reform for contraceptive logistics in developing countries. The study was conducted by the Family Planning Logistics Management project managed by John Snow, Inc., in cooperation with Ghana's Ministry of Health. It is based on fieldwork completed in Ghana during October and November 1999.

In this report we discuss the aims of the health reform efforts, the developments in population and family planning policies that are laying the base for health reform, and the setting in which health reform is taking place. We go on to identify some of the logistics-related areas that reform may well affect, and the problems that still must be addressed if health reform is to benefit the delivery of both contraceptives and essential drug supplies.

The U. S. Agency for International Development will use these publications to disseminate information on the lessons learned about the effect of health sector reform on contraceptive logistics, in particular, and public health logistics, in general. In this way, concerned countries and donors can benefit from successes in the field and avoid mistakes that might adversely affect the availability of contraceptives and other products critical to good health care.

A companion report on Zambia, plus a synthesis document, *Implications of Health Sector Reform for Contraceptive Logistics: A Preliminary Assessment for Sub-Saharan Africa*, summarizing all study results in this series, are available from the Family Planning Logistics Management project.

The authors wish to acknowledge the cooperation and hard work of our partners in development without whom this research would have been impossible. We owe sincere thanks to USAID/Accra for their patience and direction before and during the study. Particular thanks go to Kirk Lazell and Lawrence Aduonum-Darko for their technical advice and logistical assistance.

Crucial to the implementation of the study was support from the Ministry of Health. FPLM acknowledges Dr. Henrietta Odoi Agyarko for recognizing the validity of this approach for documenting the effects of health sector reform, specifically on public health logistics. We thank Dr. Samuel Boateng, Director of SSDM, for his guidance, assistance in coordinating our research effort, and approval of his staff's cooperation in this activity. We also thank Mr. Johnnie Amenyah, Deputy Director of Stores and Procurement at SSDM, who served as an important technical resource.

We wish to acknowledge the hard work of the research team which included Mr. James Sablah, Director of CMS; Ms. Emelia Thompson, Regional FP/MCH Coordinator; and Ms. Victoria Assan, FP/MCH Unit. They took many weeks away from their busy schedules to set up appointments and conduct field interviews.

Finally, the study could not have happened without the cooperation of the central, district, and SDP-level personnel of the Ministry of Health who took time to answer our questions, open their storerooms for our observations, and review many pages of logistics documentation. This study is dedicated to these staff in the hopes that our findings will prove useful to them in their efforts to better serve the needs of family planning clients in Ghana.

Executive Summary

This report summarizes the findings of a country study conducted in October and November 1999 on the implications of health sector reform (HSR) for contraceptive logistics in Ghana. The study was conducted by the Family Planning Logistics Management (FPLM) project, managed by John Snow, Inc., in conjunction with Ghana's Ministry of Health (MOH). It is the second in a series of country studies, including Zambia, Kenya, and Tanzania, and was sponsored by the Contraceptive and Logistics Management Division of the U.S. Agency for International Development (USAID). Following the completion of all the studies, a synthesis document was prepared, which summarized lessons learned in the four countries.

Rationale

As the need for contraceptives continues to rise, HSR programs portend dramatic changes for the logistics systems that manage them. This series of country studies is being conducted to—

- Understand how HSR programs affect contraceptive logistics.
- Disseminate lessons learned to countries and donors.
- Avoid mistakes that could adversely affect product availability in the future.

For each country study, there are two interrelated objectives:

1. To document contraceptive logistics operations in environments where HSR programs are being implemented

2. To identify changes in logistics functions, document the consequences of these changes, and clarify associations, if any, between the changes and HSR.

Health Sector Reform in Ghana

Ghana began its incremental health sector reform efforts in 1978, with the reorganization of the MOH and the decentralization of responsibility and resources to newly formed District Health Management Teams (DHMT). Incremental changes initiated by the government continued throughout the 1980s, and were not formulated around precise goals and specific target dates.

In 1995, the government set out its Medium Term Health Strategy (MTHS), capturing the country's long-term vision for population growth and national development. A five-year action plan laying out clearly articulated goals, objectives, and quantifiable targets accompanied it. Implementation of the MTHS reforms was much more intense than previous incremental HSR efforts.

Study Design

The study was primarily qualitative with a small, purposively selected sample. Principal criteria for selecting district samples included perceived degree of penetration of HSR activities and geographic access. Three regions, five districts, and sixteen service delivery points (SDP) were visited by the Ghana data collection teams during the study.

Interview guidelines were used at the regional levels while standardized questionnaires were used both at district and SDP levels. In addition to these questionnaires, the study team completed a comprehensive literature review prior to in-country activities; an in-country document review of policies, work plans, studies, and consultancy reports; in-depth interviews with host country and donor staff; and a review of all logistics-related records.

Implications of Health Sector Reform

Research and interviews determined that while HSR efforts in Ghana have done no harm to the contraceptive logistics system, they also have not measurably improved it. Indeed, although many reform activities are being undertaken, the contraceptive logistics system generally performs the same way it did prior to 1993, when the government first outlined its intensive health reform policies. This situation may be largely attributable to the fact that contraceptive supplies are still exclusively donor supported and logistics remain vertical.

Cost Recovery

Cost recovery efforts for contraceptives have been successful, and staff are using funds generated from the sale of contraceptives in a responsible, appropriate manner. These funds pay for distribution costs of commodities and procuring nondrug consumables required to deliver quality family planning services.

Privatization

Family planning services are provided increasingly by private practitioners. Distribution of some commodities, particularly condoms, has also left the MOH system. Nevertheless, the MOH continues to provide the majority of family planning services and commodities.

Decentralization

Decentralization appears to have resulted in feelings of empowerment by DHMTs, who feel capable of identifying and implementing activities to meet their needs. However, the situation does not appear to have translated into improved performance in contraceptive logistics. For example, DHMTs decided to provide logistics training for staff, but the training led to little measurable improvement in performance, largely because the training was unstructured and noncompetency-based.

Integration

While the MOH intends to integrate contraceptive logistics into the Stores, Supplies, and Drugs Management Division (SSDM), thus far the Family Health Unit has lobbied successfully to delay integration. The goal of the Family Health Unit is to train all SSDM personnel in logistics management and information systems prior to integration; however, it is unclear how long the unit will be able delay integration.

Recommendations

Based on study findings, recommendations include the following—

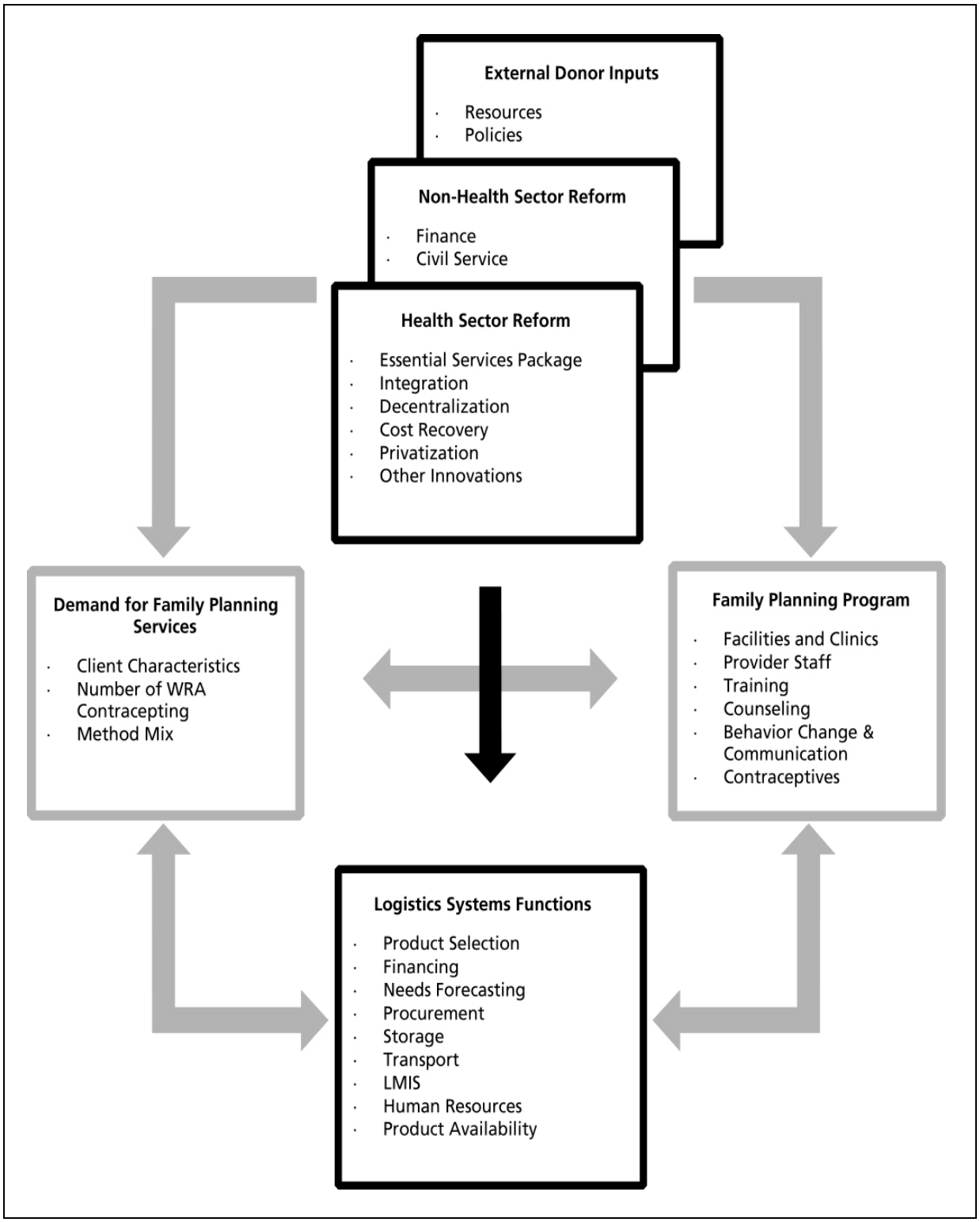
- Ensure that supervisors monitor staff conformance with logistics procedures established in the training manual and taught during training.
- Ensure that contraceptive logistics is included on the supervisory checklist for regional supervisors. If a district-level checklist is developed, it, too, should include contraceptive logistics.
- Prepare the local health system for any further moves toward structural integration by involving the SSDM in donor coordination of contraceptive supply and in contraceptive forecasting.
- Develop a detailed plan outlining how integration of drug and contraceptive logistics systems is to be accomplished before proceeding with integration of management support systems.

1. Health Sector Reform and Contraceptive Logistics

Health sector reform (HSR) in the developing world involves systemic changes aimed at improving the quality, efficiency, equity, and financial sustainability of health services. To improve the health care delivery system, including the delivery of contraceptives, many donor-reliant countries have initiated and implemented reform programs in the last decade. An important stimulus for reform is the *World Development Report 1993: Investing in Health* (World Bank 1994), which explains the basic rationale for the new health reforms, describes the major reform components, and provides a common language.

Health reform efforts in the developing world, which were introduced in an environment of inflation, increasing health needs, and rising costs, have been supported by a consortium of development banks, multilateral agencies, and bilateral donors. Figure 1 displays the interrelationship between elements for change and the contraceptive logistics systems in countries where HSR is taking place. Changes in any of these elements will probably affect the way the logistics system works and vice versa. When used to guide information gathering, the model can reveal how HSR can affect specific logistics functions and contraceptive security either directly or indirectly.

Figure 1.
Relationship between Elements for Change in a Health System and in a Logistics System



Direct effects result from actions taken within the health system that deliberately change the way logistics are handled. Examples include changing the contraceptive method mix, reorganizing the central medical store, and implementing a new management information system.

Indirect effects are effects induced elsewhere in the environment that inadvertently affect the way specific logistics functions are carried out. Examples include changes in relationships between host country ministries and donors, integration of family planning and reproductive health services, and training for family planning service providers that creates prescriber or client preferences for certain products.

Underpinning many reform efforts is a package of essential services intended to spread basic health services throughout a particular country and help health program managers make the most cost-effective use of their limited resources. The package typically comprises such interventions as family planning, prenatal and obstetrical care, management of the sick child, treatment of tuberculosis, and case management of sexually transmitted diseases.

To promote maximum coverage, HSR programs also involve innovations in management and financing, including—

- Integration of family planning and other health services.
- Integration of logistics and other support services.
- Decentralization of planning and budgetary decision making.
- Implementation of cost recovery measures.
- Privatization of selected operations.

Implementation of an essential services package and related reforms usually takes place at the district and subdistrict levels. Contraceptives, drugs, vaccines, expendable medical supplies, and trained staff must always be available at these levels if reform is to be successful.

Before HSR, program-specific supply items (e.g., contraceptives, vaccines, oral rehydration salts, co-trimoxazole, tuberculosis and leprosy drugs, and vitamin A and other nutritional supplements) were forecast, procured, stored, and transported through vertically managed, single-purpose logistics systems. This is often still the case. The experience of the Family Planning Logistics Management (FPLM) project over more than 15 years is that countries implementing HSR programs typically have stronger delivery systems for contraceptives, weaker systems for drugs, and systems for vaccines that fall somewhere in between. Reform measures, such as the integration of logistics services or decentralization of decision making, are likely to affect the functioning of such vertical systems. Health care managers often change vertical systems in the hope that improved operational efficiency will provide better support for the essential services package.

2. Study Protocol

Our study in Ghana, conducted during October and November 1999, attempted to identify the effects of health sector reform on the logistics management of two priority public health commodities: contraceptives and essential drugs. Although we developed standardized protocols for all countries in the study series, we also adapted the protocols to each country situation. The following section presents the study protocols used in Ghana.

Study Team

The study team comprised staff from the Family Planning Logistics Management (FPLM) project; consultants from John Snow, Inc.; specialists from The Futures Group International, an FPLM subcontractor; local consultants; and staff from the Ministry of Health (MOH). The team worked closely with USAID's Division of Contraceptives and Logistics Management (CLM) and the country mission.

Study Objectives

The study had two major, interrelated objectives:

- To document contraceptive logistics operations in environments where HSR programs are being implemented.
- To identify changes in logistics functions, document the consequences of these changes, and clarify associations, if any, between the changes and HSR.

Because the study results would also help explain how HSR may be affecting logistics management for priority public health commodities in other developing countries, an additional objective was to ensure that the findings were made available to program managers in all the countries participating in our overall study of HSR effects on health logistics.

Study Method

The study team gathered both qualitative and quantitative information through the following methods:

- Review of relevant documents, such as policy documents, work plans, case studies, and consultancy reports.
- Interviews with key informants among host country and donor staff.
- Review of logistics-related records.

The study team also developed generic questionnaires, which we adapted for use at the central, regional, district, and service delivery point (SDP) levels in each country. (Work at the district and SDP levels required a sample survey approach.) The questionnaires developed for Ghana are in appendix B.

Due to the qualitative nature of the studies and high cost of data collection, the site samples in all countries in the study were small and purposively chosen. Sample sizes vary somewhat from country to country; the work completed for Ghana closely parallels the model used in Zambia.

The principal criteria for selecting district samples were the perceived degree of penetration of HSR activities and geographic access for the study team. Geographic access was a major criterion for the SDP samples, too.

Sample Design

The sample design for information gathering below the central level consisted of 3 regions, 5 districts, and 16 SDPs, as follows:

- The Greater Accra, Brong Ahafo, and Western regions. The districts of Metropolitan Accra in Greater Accra; Sunyani and Asunafo in Brong Ahafo; and Shama Ahanta East and Nzema East in Western.
- The district hospital or the storage facility, or both, and two additional SDPs within each district.
- The regional hospital in the Brong Ahafo region.

The capital region of Greater Accra provided the urban perspective. The other regions represented the coastal savanna (Western region) and forest (Brong Ahafo region) locales, the two most populous of the country's three ecological zones,.

At the time of the study**,** Brong Ahafo region had been achieving fairly positive results in the evolution of family planning indicators, with average annual drug sales per SDP increasing steadily. Promptness and accuracy of reporting in Brong Ahafo is good, but there is room for improvement. Despite a considerable investment in training, the Greater Accra region had made little progress.

In each region, the district that housed the regional capital was studied. The regional medical officer or deputy officer selected the other district to be studied; the only criterion imposed by the study team was that travel to or from the regional capital consume no more than one day.

Interviews were conducted in the district hospitals of each district and two randomly chosen SDPs in the district. (In Sunyani, the regional hospital also serves as the district hospital.)

The study team organized itself into three field teams, each covering one region, the districts in that region, and the region's SDPs. The Greater Accra region team consisted of two FPLM project staff members accompanied by the Greater Accra regional family health coordinator. The other two teams consisted of one FPLM logistics advisor and a Ghanaian counterpart. In Brong Ahafo region, the Ghanaian team member was the principal nursing officer of the central-level Family Health (FH) Unit. In the Western region, the Ghanaian team member was the former head of the Eastern region's regional medical stores.

3. Ghana Today

The Republic of Ghana lies on the western seaboard of Africa; its southern boundary is the Gulf of Guinea, a 560 kilometer stretch of the Atlantic Ocean. An anglophone country, it is bordered by French-speaking Côte d'Ivoire, Burkina Faso, and Togo. Land area is 238,537 square kilometers (approximately the same as Great Britain), and the terrain varies from coastal savanna in the south to a midcountry forest belt that gradually thins to dry savanna plains in the north. In 1957, Ghana became the first sub-Saharan African country to achieve independence.

Demographics

With an annual average growth rate of 2.9 percent and a total fertility rate (TFR) of 4.6 births in 1998 (Macro International 1999), Ghana has one of the highest population growth rates in the world. The population more than tripled in the 40 years following independence, growing from under 6 million in 1957 to an estimated 18.5 million in mid-1998 (U.S. Bureau of the Census 1999). The country is extensively urbanized, with about 40 percent of its people living in towns or cities. Nearly half are under the age of 15 (World Bank 1997).

Ghana is one of the poorest nations in the world; its gross national product per capita in 1992 was U.S.$410, with 31 percent of the population living below the poverty level (World Bank 1997). Since Independence, considerable progress has been made in improving health status; in 1997, the infant mortality rate was 66 per 1,000 live births compared with 94 per 1,000 in 1980 (World Bank 2000), and life expectancy at birth for men and women was 58 and 62 years, respectively (WHO 1999). Other health indicators are not as positive: maternal mortality is 740 per 100,000 live births (World Bank 1999b) and under-5 mortality is 107 per 1,000 live births (Macro International 1999).

The Economy

Ghana has a mixed, but primarily agrarian, economy characterized by small-scale farming, that absorbs about 60 percent of the total adult labor force. The rest of the economy comprises services and industry, with manufacturing the most important sector (EIU 1999).

After a period of relative prosperity in the 1960s, the economic climate changed dramatically. In the 1970s and early 1980s, the economy deteriorated because of a fall in the world price of cocoa and this situation was further exacerbated by internal economic mismanagement and political instability. Real gross domestic product fell by 30 percent between 1975 and 1982. By 1983, inflation had reached 123 percent, with devastating levels of poverty.

To try to reverse the economic decline, the Government of Ghana (GOG) adopted the Economic Recovery Program (ERP) in 1983. The implementation of the ERP's adjustment strategies, together with its wide range of associated policy changes, turned the economy around. Real gross domestic product increased from around 2 percent to 5 percent per annum and inflation declined to 26 percent per annum. However, a fiscal setback took place in 1992, and the economy has since remained fragile, with inflation reaching 71 percent in 1995. To stem the again-rising trend in inflation, the government entered into a three-year Enhanced Structural Adjustment Facility with the International Monetary Fund in June 1995. Inflation then fell from 71 percent at the end of 1995 to 29 percent in mid-1997 (World Bank 1997).

National Population Policy, Health Program, and Family Planning Services

The Government of Ghana issued its first population policy in 1969 and established its National Population Council in 1991. Several donor-sponsored projects started working with the MOH to help lower fertility rates. Among them was the USAID's Family Planning and Health Program (FPHP), which, from 1991–1996, used maternal and child health interventions to help lower fertility and also prevent the spread of HIV/AIDS (Adamchak 1995).

Indeed, two 1993 studies by Macro International and USAID showed that FPHP was helping Ghana meet its fertility targets more quickly than anticipated. Nevertheless, the growth rate, which now stood at 3 percent, remained substantial, as did the TFR of 5.5 births (Bowers et al. 1999).

A common barrier to the use of family planning services in the developing world has been ignorance of family planning. However, GHS reported in 1993 that this was not the case in Ghana. Instead, prospective clients frequently suffered from poor access to these services, poor supervision of providers who offer these services, and bias against family planning on the part of providers.

The government response to the report was embodied in both a 1994 Revised National Population Policy, and *Ghana Vision 2020,* a document laying out Ghana's vision for the nation's population growth and development. Specific targets set for curbing population growth and increasing contraceptive prevalence were as follows:

- Reducing the annual population growth rate to 1.5 percent.
- Reducing the TFR to three births per woman.
- Increasing the use of modern contraceptives to 50 percent.
- Making family planning services available, accessible, and affordable to at least one-half of all adults.

The National Population Council, working with FPHP, also expanded public- and private-sector efforts to provide family planning and maternal and child health services, supplies, and information (Adamchak 1995).

To build on family planning successes and also address the HIV/AIDS issue, USAID launched its five-year Ghana Population and AIDS (GHANAPA) project in 1994 (Bowers et al. 1999). Two aims of the project were to increase the proportion of acceptors using long-term family planning methods from 20 to 40 percent and increase contraceptive prevalence to 20 percent. GHANAPA also wanted to promote awareness and practice of HIV/AIDS risk-reduction behavior by increasing condom use and improving knowledge of HIV infection prevention.

In line with the MOH goal of integrating reproductive health services, GHANAPA also developed new service delivery guidelines, a number of them mirroring HSR efforts, including cost recovery and increased involvement of private-sector health care providers. A 1998 assessment of GHANAPA's performance by TvT Associates found that the project had helped produce a reduction in the TFR from nearly 5.5 in 1993 to 4.6. Nevertheless, GHANAPA fell short of its goals due to unrealistic expectations and inadequate financial support from both the government and USAID (Bowers et al. 1999).

A fuller discussion of Ghana's population policy, health system, and family planning services is in appendix A.

4. Health Sector Reform in Ghana

Ghana began its health sector reform efforts in 1978 with the creation of District Health Management Teams (DHMT). To ascertain how the reforms have affected the contraceptive logistics system, and, to a lesser extent, the drug logistics system, we must look at the context in which HSR is taking place.

Stakeholders

Stakeholders in the reform program are numerous. In terms of ensuring the implementation and continuation of the reforms, the most important are MOH staff at all levels. Other stakeholders are the caregivers with whom the MOH is seeking partnerships: missions; other local nongovernmental organizations (NGO); private practitioners, both modern and traditional; suppliers of goods and services; and universities and research institutions (Ministry of Health/Ghana 1998b).

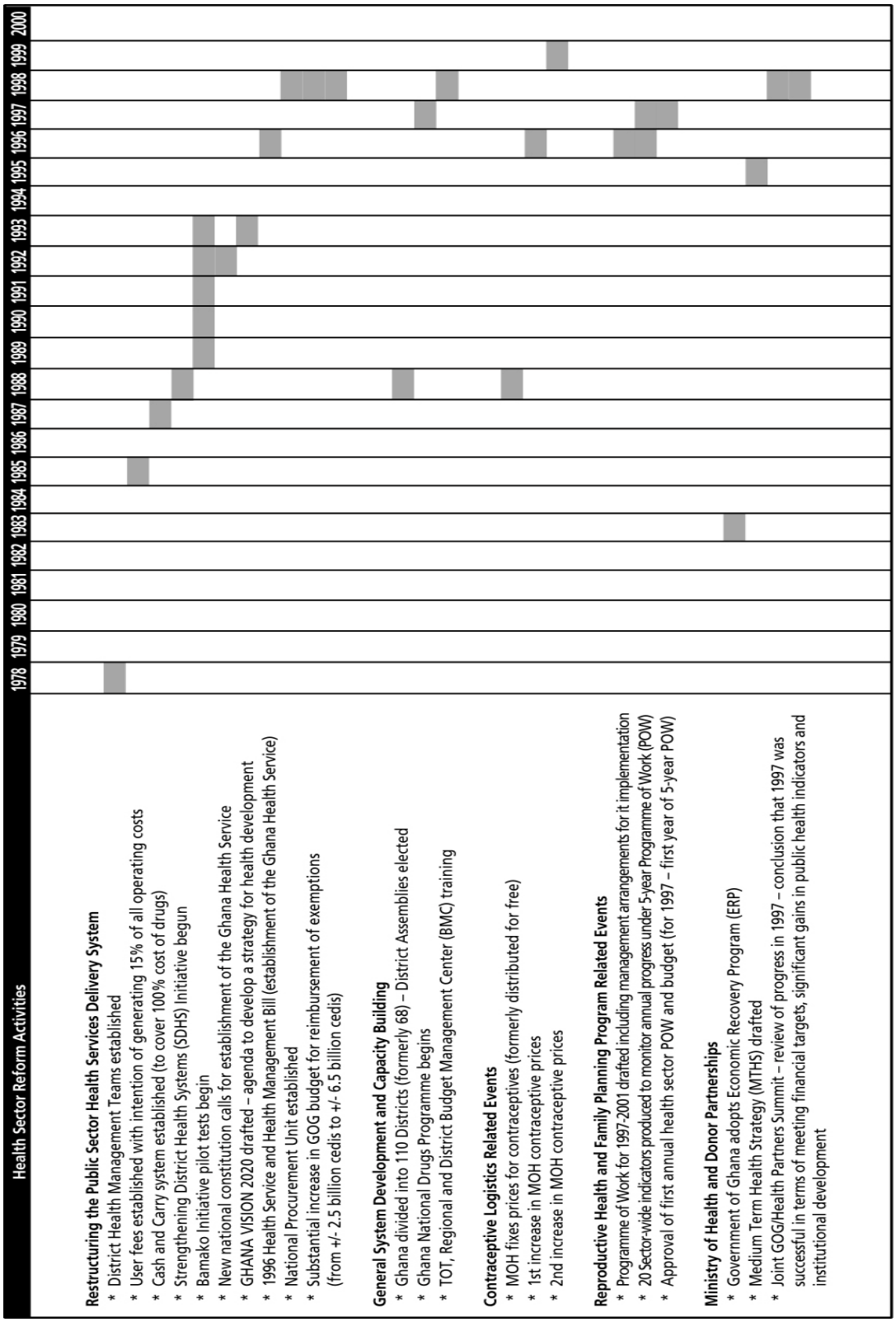
Donors are also important stakeholders, as are the intended beneficiaries of the reforms, the Ghanaian people. Indeed, increasing efforts to involve health consumers in discussions are evidenced by the use of user-satisfaction studies carried out by the MOH.

Timing of Reforms

Health reform in Ghana occurred in two waves distinguishable from each other by the comprehensiveness and timing of their reform agendas. Basic reforms, begun in 1978, encompassed the reorganization of the MOH and decentralization of responsibility and resources to the DHMTs. The push for these changes came primarily from the government, not from donor-imposed conditions, and it was not formulated around precise goals with detailed target dates. Incremental in nature, they minimized shocks to the health system and allowed the gradual introduction of changes.

In 1993, the government set out its Medium Term Health Strategy (MTHS) in *Ghana Vision 2020* (Ministry of Health/Ghana 1995b). The document captured the country's long-term vision for population growth and national development. The accompanying five-year MTHS action plan clearly articulated an overall set of goals, objectives, and quantifiable targets. It also outlined a series of strategies for helping regions, districts, and health facilities formulate their own strategies, plans, and annual budgets for this period. This plan provided a framework for the second wave of reforms. Figure 2, a gantt chart, contrasts the levels of intensity in implementation of HSR between the 1987–1996 incremental period and the 1997–2000 MTHS period. The effects of HSR on contraceptive and drug logistics discussed in subsequent sections are largely related to the latter wave of reforms.

Figure 2.
Approximate Timing of Health Reform Implementation, 1978–1999



The Key Elements

The MOH approved the first annual action plan for the MTHS and its budget in 1995. Marking the first time that activity planning and budgeting were done on a sectorwide basis, the action plan contained the baseline data against which progress is now reviewed annually. Calling for reform strategies to be set within a realistic budgetary framework agreed on annually by the government and its cooperating partners (Ministry of Health/Ghana 1999d)**,** the MTHS has two main goals:

- Provide universal access to the basic package of health services, and improve the quality and efficiency of health services.
- Foster linkages with other sectors to reduce the population growth rate, reduce malnutrition, increase female education, increase access to water and sanitation, and reduce poverty.

A key component of the second wave of reform, distinguishing it from the earlier, incremental program, is the emphasis on developing systems with a sectorwide approach (SWAp). It calls for government and donor funds to be pooled and then used to finance the MTHS action plan.

About 15 major donors support health care in Ghana, including multilaterals, bilaterals, and NGOs. The biggest contributors to the pool are Danish International Development Assistance (DANIDA), British Department for International Development (DFID), USAID, the World Bank, the European Union (EU), the World Health Organization (WHO), the Netherlands Development Organization (SNV), and the United Nations Children's Fund (UNICEF).

The action plan specifies that an independent evaluation team is to determine allocations from donors to the MOH and from the central MOH to the districts, in April of each year, after performance reviews. Using data from the MOH's management information system, the evaluation would cover 20 sectorwide health service and outcome areas and targets. Independent audits of MOH finances and management are also called for.

Under the MTHS, the government is committed to increasing the total public health expenditure from U.S.$6 per capita in 1996 to U.S.$9 per capita in 2001 (World Bank 1997). To this end, the total budget over the five years 1997–2001 was set at U.S.$650 million, with U.S.$363 million (56%) to come from the government and U.S.$287 million (44%) to come from donors (Ministry of Health/Ghana 1995b).

A joint Government of Ghana-Health Partners summit was held in April 1998 to review progress made in 1997. The participants concluded that even in this short span of time, financial targets were being met and significant gains were being made in public health indicators and institutional development (Ministry of Health/Ghana 1999d).

5. The Health Reform Program in Action

The MTHS outlines the following key activities of Ghana's sectorwide approach to health reform:

- Restructuring and reorganizing the health system.
- Development of an essential services package.
- Integration of services and management support systems.
- Decentralization of decision making.
- Reform of financing mechanisms.
- Privatization of health care providers.
- Enhanced capacity building activities.

All these activities can influence logistics systems for contraceptives and essential drugs.

Restructuring and Reorganizing the MOH

According to the MOH (1996d), vertical programs previously managed by the ministry had proved inefficient, showing weaknesses in both vertical and horizontal linkages. After garnering the donor support needed to implement its new approach to delivering services and products, the MOH undertook a comprehensive sectorwide approach to reorganizing and restructuring the health care system in 1992 and 1993. It was designed to—

- Facilitate decentralized planning and management of health care.
- Delegate increased functional authority to district health administrations for planning and implementing their own local health care systems within the framework of the national action plan.

In early 2000, the Ghana Health Service (GHS), a parastatal entity called for in the nation's 1992 Constitution, was established under the MTHS. GHS was to be responsible for operational management and provision of all health services. The MOH's role, in turn, would shift from providing inputs and services to focusing on policy oversight, resource allocation and financing, regulation, advocacy, and coordination of donors (Jones 1999).

Accompanying SWAp was the concept of "delinking" employment. Thus, GHS, although part of the public-service sector, was to be distinct from the civil service, with most staff no longer employed by the MOH but recruited, selected, and employed by GHS. The president of Ghana would appoint its chief executive, holding the title of director-general, and a GHS Governing Council would be responsible for overall management.

The proposed changes in health care delivery created widespread anxiety with major political ramifications. Uncertainty about the new agency's relationship with the district-level governments and who in the health care system would be responsible for the control and disposition of district health budgets (Ministry of Health/Ghana 1999d) led the MOH to postpone GHS implementation. As a result, the new system was not yet operational at the time of this study.

However, during the restructuring exercise, the Stores, Supplies, and Drug Management (SSDM) Unit was reorganized to enable the MOH to strengthen its procurement and improve its management of central medical stores (CMS), logistics, and supplies (Ministry of Health/Ghana 1999d). A newly established SSDM Directorate was to procure and distribute all supplies—drugs, nondrug consumables, stationery, chemicals, instruments, equipment, and machinery required to run health care facilities effectively. SSDM now consists of two units:

- The Procurement Unit, responsible for procuring and storing drug supplies.
- The CMS, responsible for storing and distributing goods.

Most other MOH divisions, including the FH Unit, were assigned to handle the remaining needed commodities and equipment. The hope is that, over time, SSDM's Procurement Unit will assume oversight of all MOH procurement, with individual divisions continuing to buy what they need (Boateng 2000).

The Essential Services Package

Ghana, like a number of other countries, is exploring effective ways to deliver adequate health care to all its people. Finding an approach to filling health care needs requires reexamining priorities and recognizing the inevitability of imposing selectively rationed health services. At the time of this study, countries undergoing significant changes in their health care systems, such as Zambia and Ghana, have already identified which services they will try to provide universally as essential services. Figure 3 describes Ghana's basic package.

Figure 3.
Basic Package of Essential Services

Public Health Services

Immunization (EPI and other vaccinations)
Mass screening (growth monitoring, dental, noncommunicable diseases)
Mass treatment (vitamin A, iodine supplementation, treatment for parasitosis)
Health promotion (control of AIDS, alcohol, drugs)
Disease surveillance (diseases of public health importance)

Clinical Services

Treatment of common conditions:
  Communicable (malaria, ARI, STIs, TB, etc.)
  Noncommunicable (hypertension, diabetes, asthma, etc.)
Specialized care (dental diseases, eye, neuropsychiatric)
Emergency care (accidents, trauma, medical/surgical emergencies)
Rehabilitation (physical and occupational rehabilitation)

Maternity Services

Essential obstetric care (antenatal, delivery, etc.)
Emergency obstetric care (caesarean, assisted delivery, etc.)
Family planning services (short-term and long-term methods)
IEC (family planning, healthy lifestyles during pregnancy)

ARI = acute respiratory infection
STI = sexually transmitted infection
TB = tuberculosis

Source: Ministry of Health/Ghana 1995b

Integration of Services and Management Support Systems

To ensure that the essential services package is universally available, its implementation is often accompanied by a move to integrate services and management support systems. By eliminating duplication and making more efficient use of limited resources, economies of scale should be possible.

The issues associated with integration, whether of services or their support systems, warranted particular attention by the study team because of the direct effect integration will have on the way contraceptives reach consumers. (Integration is a key component of HSR.) However, a uniform vision of which functions should be integrated and at which level, and the extent to which integration would maximize efficiency and rationalize resources, remains to be determined.

Experiences from a number of countries, including Mali and Tanzania, indicate that initiatives to achieve structural integration by combining the management of different commodities (e.g., essential drugs with contraceptives) into a single supply chain can disrupt the delivery of family planning services (Barraclough et al. 1999; Kinzett and Lunt 1998).

> There is a persisting rigid separation between curative and preventive services resulting in a sub-optimal use of staff.
>
> —Ministry of Health/Ghana 1998

Through a supermarket approach to delivering reproductive health services, integration in Ghana appears to be primarily affecting family planning service delivery. Thus, a woman going to an SDP for a child-health consultation (a curative service) can receive family planning counseling (a preventive service) from another service provider during the same visit. Commodities, however, continue to be managed separately, arriving via parallel distribution systems to SDPs where they are utilized in integrated programs.

Decentralization of Decision Making

The seeds for decentralizing decision making had been planted in 1978 with the establishment of DHMTs. By 1988, the country was divided into 110 districts, and District Assemblies were being elected. A District Assembly has deliberative, legislative, and executive functions and serves as the planning authority for the district (Cassels and Janovsky 1996).

The Strengthening District Health Systems (SDHS) Initiative began in 1988. Under this initiative, the DHMTs have gradually been strengthened and, in 1995, were granted authority to handle funds for nonwage recurrent health expenditures, thereby further advancing decentralization.

A key factor in the DHMT empowerment has been the creation of Budget Management Centers (BMC). The centers are decentralized functional units responsible for planning, managing, and implementing an agreed-upon program of work within a given budget (World Bank 1997); they are functionally and administratively accountable. The following types of units may be organized as BMCs:

- DHMTs
- District hospitals
- Regional Health Administrations
- Regional training institutions
- Regional hospitals
- Teaching and specialized hospitals
- MOH headquarters division
- The GHS.

Expenditures within the health sector are made at BMCs. In 1997, there were approximately 214 BMCs; the number may well increase to more than 1,000 in 2000.

> As a result of decentralization, things have improved. Both districts and subdistricts have been able to use their money to satisfy their particular needs. They know their needs and can plan for them at the local level versus this being done at the central level.
>
> —Western Region/Nzema East District

Of the BMCs operating in 1997, more than 60 were certified to manage health account funds. To be certified, a BMC must meet a number of criteria. They include submission of an annual budget for internally generated funds (IGF) and health account funds accompanied by a statement of quantified targets and objectives for the resources made available. Also, acceptable accounting procedures must be in place, and trained staff must be available to report revenues and expenditures of IGF and health account funds; mechanisms must be available to track progress toward achieving the quantified targets; and personnel must be capable of issuing periodic reports on BMC indicators. This level of decentralization, which gives ultimate responsibility for program planning and implementation to local levels, is perceived in Ghana as empowering and is widely supported.

Financing

Reform of financing mechanisms is a key element of HSR. Ghana has more than a decade of experience with cost recovery mechanisms that are considered important elements in financing public health care. The two major mechanisms of cost recovery—user fees for services and a cash-and-carry system for health commodities—are now well-established in the health care system and are the source of the IGFs, that now provide about 10 percent of the recurrent MOH budget (Ministry of Health/Ghana 1999d).

User Fees

In 1985, user fees were established in health care facilities with the goal of generating 15 percent of operating costs. The institution of user fees apparently depressed health care seeking behavior, which required a number of years to regain its equilibrium (World Bank 1997). Utilization of public curative services, however, is only at about 0.35 visits per capita in 1998 (Ministry of Health/Ghana 1999d). A possible contributing factor to this low rate of utilization could be poor geographic access. About 30–40 percent of the population, mostly those in rural areas, do not have easy physical access to services (World Bank 1997).

There is a policy for exemption from payment for under-5s and over-70s, as well as for tuberculosis, leprosy, immunization, child welfare services, antenatal and postnatal care, and paupers. A World Bank report describes this policy as poorly administered and lacking in transparency (World Bank 1997). By far, the major proportion of exemptions, especially for drugs, are for MOH staff and their dependents (VRHA Research Team 1997).

Questions concerning equity are of increasing concern given the poverty levels and a perception that the poor may be excluded from health care through the imposition of user fees. As stated earlier, the lowest income quintile of Ghanaians receive only 12 percent of public spending compared to 33 percent for the highest income quintile (World Bank 1997). To address issues of inequity, the government significantly increased funding for reimbursement of exemptions. In 1998, funds dedicated for exemptions in the GOG budget more than doubled from about 3.2 billion cedis to 7.6 billion cedis (Ministry of Health/Ghana 1998d).

The Hospital Fee Regulations Act, enacted in 1985, specified fees to be charged for consultation, laboratory, and other diagnostic procedures. Medical, surgical, and dental services; medical examinations;

and hospital accommodation are also included. Further, it is specified that the full cost of drugs is to be recovered from patients at all hospitals.

Cash-and-Carry

Ghana's cash-and-carry system for commodities includes two components: the first requires lower-level facilities to obtain drugs through higher-level stores and pay at the time of collection. The second is a program of user fees; that is, clients pay for contraceptives. Both aspects of this system are known as cash-and-carry.

> Drugs used to be given free with no accountability or reliability. With cash-and-carry, we now have funds to purchase [drugs and nondrug consumables] leading to improved availability of drugs and nondrug consumables.
>
> —Western Region/Shama Ahanta East District

The first attempt to establish a cash-and-carry system that would allow CMS to recover 100 percent of drug costs took place in 1987. It did not, however, become fully operational until 1992, when the official revolving drug policy came into effect to generate funds for covering the resupply of drug needs by health care facilities. In 1988, the MOH established modest prices for contraceptives, which had heretofore been distributed free of charge. In conformance with the Hospital Fee Regulations Act, the full cost of drugs is recovered from patients at all health care facilities. Cash-and-carry is widely seen throughout the health care system as a highly positive mechanism for financing. In contrast to some countries in sub-Saharan Africa, Ghana is relatively successful at maintaining adequate drug supplies in its health care system. This is not to say that problems do not exist in the management of drug supplies, but there are not the widespread shortages of drugs in public health facilities that exist elsewhere.

BMCs buy drugs for public-sector health care from several sources including the MOH structures—CMS, the regional medical store (RMS), and the district medical store (DMS)—and from the private sector. Private providers include local representatives of international drug suppliers and local wholesalers, who may more aggressively sell to health facilities and MOH structures and may offer favorable terms relating to credit and delivery of goods.

Whatever the source of drug supplies, the different levels of the public-sector health care system add a mark-up over "cost price." The CMS reports that at the central level the official mark-up is 15 percent for locally obtained drugs and 45 percent for drugs obtained internationally. The RMSs add a 10 percent mark-up, and the DMSs and the subdistrict facilities also add a mark-up (Rankin et al. 1993). In fact, there is no uniformity of drug selling prices across regions; the Ghana National Drugs Programme (GNDP) baseline study found that price mark-ups range from 13 percent to as much as 52 percent at the SDP level, as shown in table 1 (Ministry of Health/Ghana 1999a, Ministry of Health/Ghana 1999d).

Table 1. Actual versus Official Mark-up for Drug Prices, by Percentage, 1999

Level	Official Mark-up (%)	Actual Mark-up (%)
CMS	15	22
RMS	10	10.5–38.5
Health facility	5	13–52

Source: Ministry of Health/Ghana 1999d

Drug Pricing

The health facility's officer-in-charge often sets the selling price of drugs. Sometimes the pharmacist also participates in setting drug prices. Occasionally a Drug Review Committee determines the selling price. The revenue from drug sales, which goes into a separate account, is used exclusively for drug resupply. Although the system is supposed to be cash-and-carry, it is accepted policy that the CMS and RMSs not refuse to provide drugs in the event a lower level does not have the cash on hand; thus *credit-and-carry* has become the reality in many places. Consequently, some RMSs are substantially indebted to the CMS, and DMSs, in turn, are indebted to RMSs.

Cost Recovery for Contraceptives

Prices for contraceptives were low until 1995, when a persistent annual inflation rate of 25 percent caused NGOs and commercial-sector providers to raise contraceptive prices. Despite continuing inflation, MOH contraceptive prices remained unchanged between 1995 and mid-1999. This meant there was a steady decline in the real price of MOH contraceptives and a widening gap between public- and private-sector prices.

This gap has had at least two deleterious effects. First, the more affluent segment of society, who could afford to pay higher prices, began to seek contraceptives at the lower public-sector prices. The result is that low prices in the public sector amount to a blanket subsidy for all contraceptive users, thwarting efforts to channel scarce public resources to the poor (Ministry of Health/Ghana 1998a).

Second, public-sector commodities quickly leaked into the private sector. A Ghana Social Marketing Foundation (GSMF) retail audit carried out in 1997 found that about 20 percent of contraceptive stocks in pharmacies and chemical shops are MOH products.

The MOH raised contraceptive prices by a substantial amount in July 1999. For example, the price of injectables went from 120 cedis to 1,000 cedis. Table 2 presents contraceptive prices by various suppliers over time.

Table 2. Contraceptive Prices, 1988–1999 (in cedis)

	1988	1994	1995	1996	1997	1998	1999
Condom							
MOH	2.5	2.5	2.5	15	15	15	25
Protector GSMF	—	100	100	100	175	175	200
Panther GSMF	2.5	35	40	40	100	100	166.67
Champion GSMF	—	—	—	25	25	25	50
PPAG	- 0 -	20	20	20	20	20	20
VFT							
MOH	2.1	2.1	2.1	25	25	25	25
GSMF	2.5	21.9	30	30	33	33	41.67
PPAG	- 0 -	12.5	12.5	12.5	15	20	20
Pill							
MOH	15	15	15	80	80	80	150
GSMF	20	130	150	150	200	200	300
PPAG	- 0 -	50	50	50	100	100	100
Injectable							
MOH	40	40	40	120	120	120	1000
GSMF	—	600	900	900	1200	1200	1200
PPAG	- 0 -	- 0 -	200	200	400	400	400
IUD							
MOH	100	100	100	200	200	200	1000
GSMF	—	900	900	900	1200	1200	1200
PPAG	- 0 -	- 0 -	500	500	500	500	500

— Product not sold at this time
-0- Product distributed for free

Source: Futures Group International 1997 and study findings

Use of Contraceptive Revenues

Family planning programs at MOH facilities do not receive MOH funding for some items. For example, they must procure their own nondrug consumables, such as gloves, cotton wool, and cleaning products. Although the revenues generated by contraceptive sales are modest, they are highly appreciated by family planning service providers who use the funds to purchase these necessary items. The revenues can also be used at the providers' discretion to improve the functioning or physical appearance of the family planning service delivery point (e.g., through shelving, partitions, curtains, or paint).

In principle, 50 percent of contraceptive revenues are to be retained at the SDPs, and 50 percent are to be passed through the system to the next higher level. The district should retain 10 percent, while the region should retain 10 percent and pass the remaining 30 percent to the central level to finance resupply.

In practice, little in the way of audits or other controls are exercised over the contraceptive revenues, and the submission of the designated percentage to the next higher level of the delivery system is not a strict prerequisite for resupply. Frequently, to improve services, all the revenues are retained by the FH Unit at the SDPs. Often they cover transport costs to pick up contraceptive supplies. Because family planning programs must be self-supporting in large measure, revenues from contraceptive sales are also used for related supervisory visits, local training, fuel for transport, per diems, photocopying, and other administrative costs.

> Cost recovery of contraceptives has improved the way they provide family planning services because when a client comes in now they are able to get whatever is needed to provide services.
>
> —Western Region/Shama Ahanta East Health Center

Health Insurance

The MTHS is currently considering the possibility of instituting a national health insurance scheme. In 1997, there was only one private for-profit health insurance organization in Ghana. Discussions of the potential of health insurance were still in preliminary stages at the time of our study. Several pilot schemes have been initiated, including the government's pilot national health insurance scheme in the Eastern region. Given the need for alternative sources of health care financing, attention to the potential of health insurance is expected to continue.

Extending Health Services through Private Groups

To provide better coverage of health services, one aim of HSR is to privatize health services. As a result, the MOH is offering incentives to private facilities offering the basic package of health services to expand into areas without public-sector health facilities. These incentives include training, equipment, or logistics support. Along a similar line, another aim of the MTHS action plan is to establish a common framework for policy development, planning, and evaluation for the public and private sectors.

Private for-profit practitioners, concentrated for the most part in urban areas, provide mainly curative care in small private clinics or hospitals operated by physicians, nurses, and midwives. Recently, in response to HSR incentives, some of these facilities have added family planning and immunization services.

Private not-for-profit facilities are operated primarily by religious and church-based groups and NGOs in rural areas. They function in close collaboration with the MOH, which covers most of the personnel costs. Many function under the aegis of the Christian Health Association of Ghana (CHAG) or the Ahmadiyya Movement, a Muslim organization. Such groups, strongly encouraged by the government**,** provide one-third of all outpatient health care.

Private not-for-profit groups, most notably the Planned Parenthood Association of Ghana (PPAG) and the GSMF, account for nearly half of all contraceptives distributed in Ghana.

In its 1998 review of the second year of the MTHS action plan, the government reiterated its commitment to promote and monitor private-sector involvement in health care. However**,** a considerable backlog of policies, strategies, and plans for the agenda for reform remains unimplemented. Nevertheless, the Joint Government of Ghana-Health Partners Summit, May 5–7, 1999, recommended that research be conducted to determine the contribution of the private and not-for-profit sectors to sectorwide health care (Ministry of Health/Ghana 1999d).

Enhanced Capacity Building Activities

The SDHS initiative is a long-standing capacity building effort dating back to 1988, and spans both waves of reform. Closely linked to the trend toward increased decentralization of decision making and management responsibilities, it is based on the premise that decentralization cannot be successful unless the management capabilities of district-level staff are first developed. Although a good deal of the early training under the SDHS focused on the theoretical role of the district under decentralization, recent training has emphasized the development of specific staff management skills.

This more recent skills-development phase coincides with the MTHS action plan, including strategies to—

1. Improve the capacity for policy development and analysis, resource allocation, performance monitoring and evaluation, and regulation of service delivery and health professionals.

2. Develop and implement a program to train adequate numbers of new health teams to provide defined services.

To achieve the first objective, the MTHS action plan calls for offering activities related to training, commissioning studies and working groups, providing funds for disseminating findings, and providing logistics support for developing and revising health policy and monitoring implementation of the action plan. Other activities include performance monitoring, evaluation, and strengthening of statutory regulatory bodies.

Achieving the second objective will involve focusing in-service training on reorienting staff to the new package of health services; expanding and restructuring preservice training; focusing specialist training on the needs of the health service; and supporting local training. The local training will include rehabilitating 23 schools, providing supplies and teaching materials, supporting revision of curricula, and retraining tutors.

As part of the SDHS initiative, the MOH, in collaboration with the Ghana Institute for Management and Public Administration, developed a series of short courses specifically designed to enhance the DHMT members' skills in financial management, logistics, general management principles, and survey methodology. Additionally, an intensive two-week comprehensive "District Health Management Operations" course, providing an overview of all aspects of management health services, was developed for district health officers. All district health officers will be required to take this course, which includes modules covering the following areas:

- Basic field epidemiology
- Program management (including logistics)
- Community participation
- Research methodology
- Health management information systems.

To allow health care providers to spend as little time away from the SDPs as possible and prevent disruption of services, topics are covered in broad rather than detailed terms. Logistics, although deemed important enough to be included, is granted only four hours of course time. It covers basic principles but does not build competencies in drug or contraceptive stock management procedures.

Other training initiatives targeting the district health officers include a course on the rational use of drugs. In keeping with the MOH policy of having trainees share their newly acquired knowledge with as many coworkers as possible, the district health officers are currently providing rational drug use training to staff at their subdistrict facilities.

6. Logistics Systems

Through both the incremental period of HSR (1987–1996) and the MTHS period (1997–2000), the public health logistics systems in Ghana have remained largely vertical, with separate supply chains for different programs. The first Situation Analysis in 1993 confirmed that, at that time, the contraceptive logistics system was more effective than the essential drugs system (Rankin et al. 1993).

The FH Unit is interested in exploring how efficiencies can be achieved through the structural integration of supply chains without compromising the functioning of the existing contraceptive logistics system. The unit, which coordinates all family planning activities in the MOH, oversees training and supervision for reproductive and child health, family planning activities, and management of the contraceptive logistics system. Staff at the central level work with regional principal nursing officers—representatives of the Regional Health Administrations (RHA) assigned responsibility for family planning—and district family planning coordinators who, in some cases, are members of the DHMT. Drug logistics, by contrast, is managed by the SSDM.

Contraceptive Distribution

The MOH's logistics system is the most important channel for conveying family planning supplies to the public (table 3). The system serves over 60 percent of the country's health facilities (all MOH, government and quasi-government, and CHAG SDPs).

Table 3. Number and Percentage of Institutions Providing Reproductive and Child Health Services, 1998

Type	Service Delivery Points				
	MOH	Government/ Quasi-government	Christian Health Association of Ghana	NGOs	Total
Hospital	68	24	46	124	262
Health center/post	492	31	105	215	843
Clinic	540	0	0	416	956
TOTAL	1,100	55	151	755	2,061
% Total SDPs	**53.4**	**2.7**	**7.3**	**36.6**	**100**

Source: Ministry of Health/Ghana 1999j

Drug Distribution

The MOH distributes a smaller percentage of Ghana's total essential drugs consumption, playing a much larger role in contraceptive distribution. Hard data were not available on the percentage of drugs that flow through the MOH system.

Approximately 800 pharmacies sell prescription drugs, and 6,000 chemical sellers sell over-the-counter drugs (Amenyah 2000). Private drug sellers are much more abundant than MOH facilities, with 2,780 people per licensed private-sector drug outlet (not including the numerous informal, unlicensed sellers).

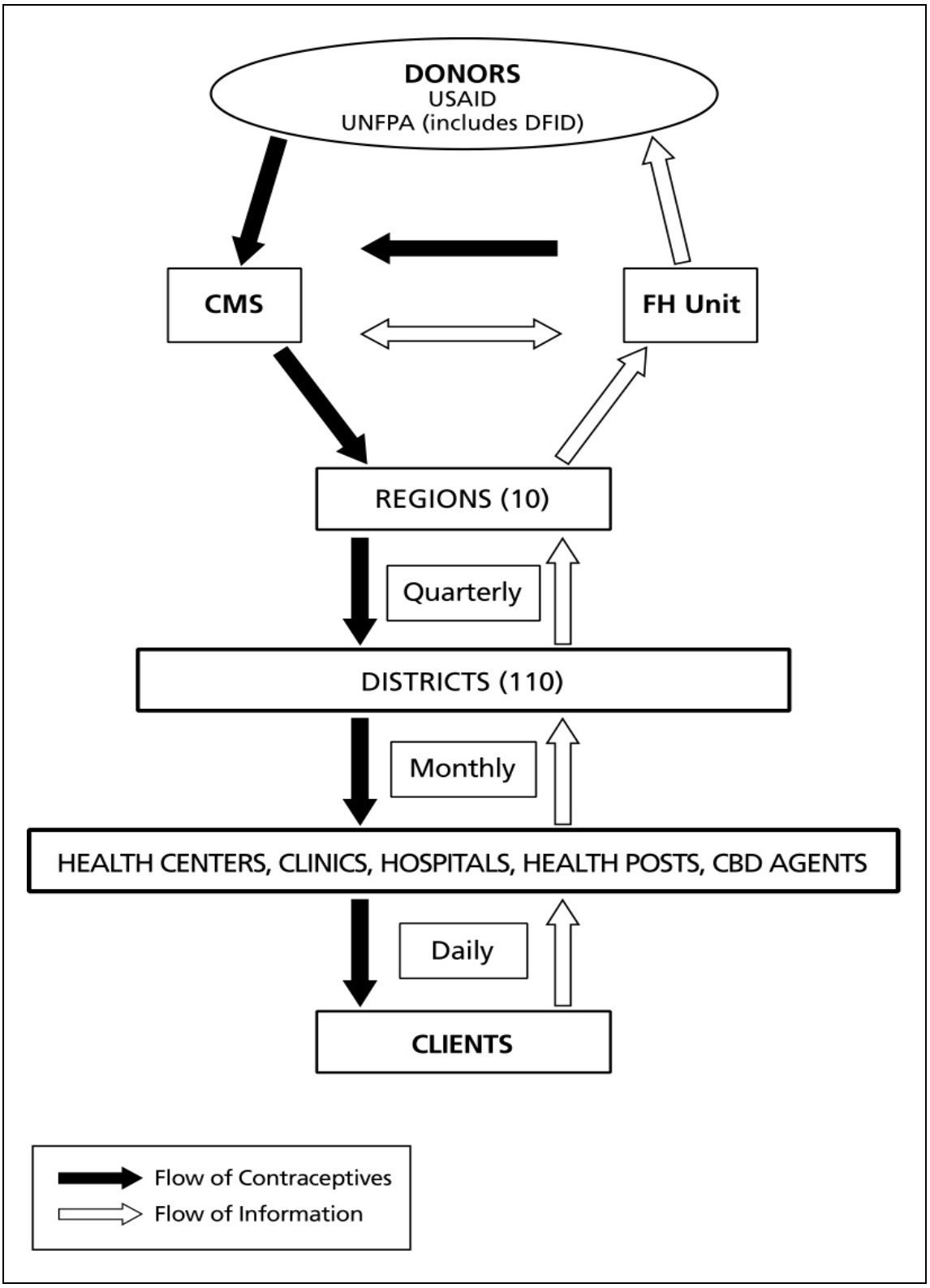
Ghana's ability to manufacture 70 percent of the drugs listed in the national formulary suggests a relatively high private-sector capability to meet public-sector procurement needs (Amenyah 2000). Of the 30 pharmaceutical manufacturers, 10 are considered to have major production capabilities. A conservative estimate of private-sector drug sales is the equivalent of about U.S.$94 million per year, another indication that the private sector plays a vigorous role in drug distribution.

Structure and Functions of the System

The logistics functions for contraceptives and essential drugs are managed and implemented separately by the two separate programs, although the two may share such resources as vehicles, storage facilities, and stock management personnel.

The MOH contraceptive logistics system has four levels: central, regional, district, and SDP. Figure 4 provides an overview of commodity and data flow throughout the system.

Figure 4.
The Contraceptive Logistics System, 1999



Method Mix

Selection of contraceptives for the system is determined by the MOH's National Drugs Committee, made up of members representing different interests in the country. The FH Unit provides needs-forecasting information.

The 1999 *Reproductive and Child Health Annual Report* by the MOH indicated that the most preferred contraceptive method by acceptor rate is the injectable Depo-Provera® (52.3%), followed by combined oral contraceptive pills (24.9 %) and condoms (9.6%). Norplant, the newest contraceptive offered, is gaining in acceptance. In our study, we found that the list of contraceptives (table 4) supplied by the MOH to public-sector service delivery points has remained fundamentally unchanged despite the implementation of reforms.

Table 4. Contraceptive Method Mix, October 1999

Short-Term Methods	Long-Term Methods
Oral Contraceptives:	**Injectables:**
Lo-Femenal	Depo-Provera®
Microgynon	
Micronor	**IUD:**
Ovrette	Copper T 380
Barrier Methods:	**Implants:**
Condoms No-logo	Norplant
Spermicides:	**Sterilization:**
Conceptrol	Mini-laparotomy tubal ligation
Neo-Sampoon	Vasectomy

Although the product list has not changed, use of long-term methods, as measured by the proportion of couple-years of protection (CYP) generated by these methods, has increased significantly since the beginning of the GHANAPA project. In 1995, short-term methods comprising 56 percent of the total clearly accounted for the majority of CYPs. In 1998, total CYPs had not only increased in absolute numbers but had also grown by about 26 percent. Use of long-term methods increased as well, accounting for 61 percent of total CYPs versus 39 percent for short-term methods (tables 5 and 6).

Table 5. Percentage of Couple Years of Protection by Long-Term and Short-Term Methods, 1995–1998

Method	1995	1996	1997	1998
Total CYP	276,187	214,499	278,952	349,289
Percentage long-term methods	44	65	63	61
Percentage short-term methods	56	35	37	39

Source: Ministry of Health/Ghana 1997d, 1998g, 1999j

Table 6. Number and Percentage of Couple Years of Protection by Provider, 1995–1998

Provider	1995		1996		1997		1998	
	Number	%	Number	%	Number	%	Number	%
MOH	276,187	56.0	214,755	44.5	278,952	54.0	349,289	55.3
PPAG	87,447	17.7	135,859	28.2	88,820	17.2	101,684	16.1
GSMF	129,129	26.2	131,613	27.3	149,031	28.8	181,000	28.6
Total	**492,763**	**100.0**	**482,227**	**100.0**	**516,803**	**100.0**	**631,973**	**100.0**

The key source document for drugs is the essential drugs list (EDL). MOH adopted the EDL in 1988, and the list is reviewed and updated periodically (Boateng 2000).

Financing

Financing for contraceptives comes exclusively from donors, with USAID and DFID providing most of the commodities. Between 1995 and 1998, DFID, at the MOH's request, provided two grants to UNFPA to procure commodities without committing to future financing. The Japan International Cooperation Agency (JICA) also plays a minor role in contraceptive financing. Only 30 percent of revenues from contraceptive sales flow back to the MOH, and at this point do not represent a significant resource for new product acquisition.

The MOH has no line item in its budget for drug expenditures. However, it does budget for reimbursement of exemptions granted to certain categories of client, so functionally it pays for some drugs. Financing for essential drugs relies on cost recovery, represented by the cash-and-carry system. We found, however, that the cash-and-carry system was not recovering all costs because credit is widely extended to hospitals and districts. The decapitalization caused by this credit-and-carry system necessitates periodic inputs of new funds for drug supplies.

Needs Forecasting

The FH Unit at the MOH uses dispensed to user data received through the logistics management information system (LMIS) to aggregate consumption. The unit relies on technical assistance from FPLM to complete the annual forecasts. Quantification for drugs is carried out by the Procurement Unit of SSDM, based on quantities issued to the regional medical stores by the central medical stores.

Procurement

Donor responsibility for procurement of contraceptives includes the selection of suppliers, contractors, and payment. USAID, for example, has its own system based on contracts with major U.S.-based suppliers and a freight forwarder, Panalpina, who coordinates shipping and port clearance. UNFPA's supplier and shipment arrangements vary by order; they use Secure Packing Ltd. for port clearance.

For drugs, the MOH has established specific procurement procedures to obtain the most advantageous prices and encourage wide competition. SSDM's Procurement Unit uses several different methods that conform to the norms of international competitive bidding. The Ghana Supplies Commission (GSC), which has been responsible for port clearance for drugs since 1990, handles SSDM's port clearance procedures.

International competitive bidding is used for contract values ranging from U.S.$50,000 to U.S.$300,000. *Shopping*, or procuring from local sources**,** is used for relatively small sums (U.S.$6,000 for the district level and less than U.S.$50,000 for regional and national levels). At the district and regional levels, shopping is restricted to local suppliers. In principle, quotations are sought from at least three sources; CMS and RMSs must also be allowed to compete.

Storage

For most drugs, contraceptives, and consumables, storage at the central level is on the CMS grounds in Tema, about 22 miles from Accra and the point of entry for all maritime shipments. Vaccines and STD/HIV supplies, which are stored in Accra, are the exceptions. Contraceptive commodities are stored in a separate bay on the CMS grounds, commonly referred to as the *UNICEF* or *donated commodities* store. Drugs are stored in several other bays on the CMS premises. Thus, at the central level, there is *one-stop shopping* for drugs and contraceptives. Contraceptives cannot be collected without first obtaining approval from the FH Unit in Accra.

In the Greater Accra and Western regions, drugs, contraceptives, and consumables are stored at the MOH-operated RMS in the regional capital. In Brong Ahafo, however, the RMS is located at a training facility a significant distance from the regional capital. Contraceptives, therefore, are stored in the regional hospital located in the regional capital.

At the district level, drugs are stored in the pharmacy of the district hospital. Contraceptives are stored in a separate storeroom at the hospital. Health centers usually have cabinets or drawers for storing products, but they store essential drugs separately from contraceptives. Often the separation stems from the need to ensure security for essential drugs, a precaution perceived to be unnecessary for contraceptives.

Due to their special handling requirements, vaccines are stored in separate locations at the central, regional, and district levels.

Transport

This study found that the transport of drugs and contraceptives, although often performed with the same vehicle, rarely takes place at the same time. (Previously, CMS undertook regular distribution of drugs to each RMS, but its fleet of functional vehicles is no longer adequate for the job.) In theory, most regions are now supposed to collect both types of supplies quarterly; in practice, the cash-and-carry system results in regions picking up supplies whenever they are needed.

Regions can have the CMS deliver products by paying for fuel and per diem costs. This additional cost is one of the factors that can make purchasing through private pharmaceutical distributors an attractive alternative. Districts are responsible for collecting their supplies from the regions (or are charged for using RMS vehicles), and SDPs go to the district to collect their supplies. Drugs, contraceptives, and vaccines are all collected separately by the staff who manage them at each level.

Information Systems

LMISs exist at all levels for contraceptives but only at the central level for drugs. The contraceptive LMIS is based on monthly reports that make their way up from the SDP level to the district, quarterly reports sent from the district level to the region, and quarterly reports sent from the region to the central level. Commodity resupply is based on aggregated dispensed to user data submitted through the LMIS. Reporting rates come close to 100 percent, but usually encounter a three- to six-week delay. At the central level, a spreadsheet is used to manage the information and convert it into a usable format for forecasting. The system is not used to provide feedback reports to lower levels.

Automated Inventory System

There is an automated inventory management system at the central level for essential drugs and consumables. The system generates reports for monitoring and disseminating information and tracks quantities issued to each region. However, the system cannot track stock movements or consumption further down the supply chain, nor is there any LMIS that does so. Drawing on central-level issues, the CMS prints out a situation report every two weeks listing current stock levels and projected needs of the most rapidly moving drugs. CMS sends the report to SSDM and the chief pharmacist. A stock bulletin, distributed monthly to regional directors, lists current drugs in stock at the CMS and their price.

Contraceptives have recently been included in this automated system, primarily for monitoring contraceptive stock on hand. Contraceptives do not appear on the situation reports or stock bulletins that the system generates for the list of selected tracer drugs, nor are data from the system used to calculate regional resupply quantities for contraceptives. The separate contraceptive LMIS provides the more accurate dispensed to user data. We found one concern to be the potential loss of the dispensed to user data should the logistics systems be integrated.

Donor Funding of Contraceptives

Table 7 shows the levels of donor funding used to procure contraceptives over the five years—1995 through 1999. They represent the entire amount of contraceptive purchasing; no government monies are used for contraceptive purchases. Despite total dependence on donor funding, sufficient quantities of contraceptives were steadily available to cover consumption demands during the timeframe covered by our study.

Table 7. Total Expenditures for Contraceptives, by Donor, 1995–1999 (in U.S.$)

Donor	1995	1996	1997	1998	1999
USAID					
For MOH	1,042,649	831,461	77,872	385,300	839,510
For GSMF	403,261	1,280,074	360,463	412,956	864,039
For PPAG	- 0 -	- 0 -	237,311	546,906	287,277
Total USAID	1,445,910	2,111,535	675,646	1,345,162	1,990,826
DFID	- 0 -	1,070,000	250,000	700,000	
For MOH					250,000
For PPAG					50,000
IPPF					
For PPAG	318,473	609,515	359,995	300,182	3,000 (incomplete)
UNFPA					
For MOH					81,000
JICA		96,000			
For MOH					
Total	**1,860,383**	**3,887,050**	**1,285,641**	**2,345,344**	**2,374,826**

The quantities of contraceptives required for procurement in any given year depend to some extent on the stock balances at the beginning of the year, that is, the fullness of the in-country pipeline. Because the end-of-year balances fluctuate considerably, annual commodity requirements also fluctuate. This situation could explain the seemingly atypical funding level in 1996. Stock levels at the end of 1995 were somewhat lower than usual due to the lower funding level in that year. With the addition of two new funding sources in 1996 (DFID, in particular, and JICA to a lesser extent), over-procurement seems to have occurred, resulting in decreased funding needs to cover 1997 consumption. However, the yearly average expenditures over the first three years are consistent with 1998 and 1999 levels.

By far, the largest contributors to contraceptive funding are USAID and DFID. In 1996, the large infusion of funds for DFID's initial grant year corresponded with an increase in USAID funding, hinting at a lack of communication between these agencies. Both donors reacted with decreased funding in 1997. When DFID funds were depleted in 1999, USAID responded with a proportional increase, suggesting that donor coordination improved. When this study was undertaken, DFID's intentions for contraceptive funding in the future were unclear.

7. Health Reform and Logistics

Modifications in population policy since promulgation of the 1993 National Population Action Plan have affected the MOH contraceptive logistics system. One notable change is the gradual increase (from two to four) in the number of donors involved in the procurement of contraceptives. As table 7 indicated, USAID has been and continues to be an important contraceptive supplier in Ghana. In fact, in the period before reform, UNFPA was the only other donor. Recently, USAID has reduced its role, and other donors (such as DFID and, to a lesser extent, JICA) have entered the picture. At the request of the FH Unit, DFID provided grants through UNFPA to help cover contraceptive needs from 1996–1999. However, there are no plans for DFID to provide funding for contraceptives in the future. A current concern is who will make up the shortfall if the USAID contribution proves insufficient.

USAID has also been providing the majority of technical assistance in contraceptive logistics since the mid-1980s. From 1985–1992, the objective of the USAID-funded Contraceptives Supplies Project (CSP) was to establish a management system in the public sector that would permit keeping a full supply of contraceptives at central, regional, and district warehouses and service outlets. The implementation plan called for a reporting system that could be used for management decisions. Nevertheless, a midterm evaluation of the project by the Population Technical Assistance Project noted "serious problems of commodity supply and stockouts" (Bair et al. 1992). The problems were traced to insufficient procurement, delays in port clearance, ineffective inventory control**,** and ineffective distribution to the SDP level.

In response to the recommendations in the midterm evaluation, FPLM started providing intensified technical assistance to the MOH for handling contraceptive logistics, with operations overlapping a period in which the second wave of reforms were being instituted. For the next six years, FPLM was more concerned with enhancing the MOH contraceptive logistics system (e.g., assisting with the annual forecasts of contraceptive needs) than with altering the system's structure.

The enhanced MOH system performance has come about largely from the following FPLM interventions:

- FPLM established door-to-door delivery of contraceptives to cope with problems related to port clearance, which caused considerable delays in the pipeline. The GSC had been solely responsible for port clearance for contraceptives and drugs. However, FPLM worked with the FH Unit to have USAID's shipping agent clear customs on USAID-provided commodities, which are then delivered directly, door-to-door, to the CMS.

- FPLM shortened the pipeline to reduce the quantities of stock held at each level of the system and, thereby, decreased the risk of product expiration. This accomplishment was possible because of the door-to-door policy allowing for smaller, more frequent shipments and an easily adjustable shipping schedule for supplies traveling from the United States to Ghana.

The Effect of HSR Reform on Contraceptive Logistics

To determine what effect HSR was having on contraceptive logistics systems, the study team identified those drug and contraceptive logistics activities likely to be affected by health reform, namely—

- Budgeting for district staff supervision of local health facilities.

- Conducting regular supervision.

- Providing training in family planning logistics and commodity management.
- Making transportation available at each level of the system.

The study team then developed process indicators to ascertain if reform measures intended to improve logistics at district and subdistrict levels are being carried out. The indicators were derived from the MOH Health Sector 5-Year Programme of Work (POW) 1997–2001, 1998 Review (Ministry of Health/Ghana 1999d); Report of Second Situation Analysis Study of Family Planning Services in Ghana (Ghana Statistical Service 1997); Baseline Study on the Pharmaceutical Sector in Ghana: Rational Use, Procurement and Financing of Drugs (Ministry of Health/Ghana 1999b); Staff Appraisal Report: Republic of Ghana Health Sector Support Program (World Bank 1997). They are as follows:

- District lists item for supervision in district plan.
- Health centers receive a supervisory visit every three months.
- Health centers have one or more providers trained in contraceptive logistics.
- Regions provide training in contraceptive logistics.
- Operational vehicles are available at each level of the health system.

Table 8 shows the number of regional, district, and health centers making progress toward meeting the target goals for these activities since the start of reform.

Table 8. Progress of Health Facilities Towards Reform, by Level, October 1999

Process Indicator	Region	District	Health Center
Number of districts with a line item for supervision in district plan.	NA	3 (6)	NA
Number of health centers receiving a supervisory visit within the 3 months preceding the study visit.	NA	NA	10 (16)
Number of facilities with 1 or more providers trained in contraceptive logistics in 1999.	NA	5 (5)	15 (16)
Number of regions providing contraceptive logistics training courses.	4 (10)	NA	NA

The study also showed transportation to be a problem at all levels. The CMS does not have a distribution schedule, and only two out of eight trucks are functional, so most RMS staff must collect commodities themselves (Ministry of Health/Ghana 1999d).

We found a similar trend at the district level, where two of the four districts surveyed have only one pick-up truck each, and the other districts have two operational vehicles each (table 9). The primary function of these vehicles is to serve the transport needs of the DHMT, which range from traveling to and from meetings and providing supervision and monitoring, to transporting equipment and supplies to the health centers. Thus, the vehicles are rarely available for picking up commodities from the regional level or for delivering commodities to SDPs.

At the SDP level, operational vehicles for collecting or delivering supplies are even scarcer. At least one site visited in each district did not even have a motorcycle and had to use commercial transport to collect contraceptives, submit reports, and make outreach visits.

Table 9. Number of Operational Vehicles at District and SDP Levels, October 1999

District	District Level	SDP Level
Asunafo	2 pick-up trucks 1 motorcycle	2 out of 3 sites had 1 motorcycle
Sunyani	1 pick-up truck 1 motorcycle	3 out of 4 sites had 1 motorcycle
Nzema East	1 4x4 1 pick-up truck 1 motorcycle	2 out of 3 sites had 1 motorcycle
Shama Ahanta East	1 pick-up truck 6 motorcycles	0 out of 3 sites had 1 motorcycle

Logistics Results

The review of the process indicators was useful for ascertaining if measures intended to improve logistics at district and subdistrict levels were moving toward their targets. It did not indicate how the logistics system is actually functioning. To measure the improvement during the reform period, the study team listed specific outcome indicators that, when linked to the process indicators, can show the accomplishments to date. The outcome indicators that follow are standardized logistics measures applicable to the system in Ghana:

- Frequency of stockouts
- Availability of method mix
- Maintenance of correct stock levels
- Consistency of stock record keeping
- Acceptability of storage conditions
- Frequency of supervision
- Frequency of training.

Frequency of Stockouts

Included in the reform documents is a performance indicator measuring the availability of tracer drugs at the service delivery level that can indicate the sectorwide performance of the drug supply system. (For contraceptives, a comparable measure is the frequency of stockouts at the SDP level.)

According to the 1996 Situation Analysis, the MOH contraceptive logistics system had become more effective at providing a continuous supply of family planning commodities to its SDPs: over 50 percent were offering six of the eight major contraceptive methods, and 90 percent were offering a particular method if these supplies were available on the day of visit. However, between 10 and 20 percent had experienced at least one stockout in the preceding six months (table 10).

Table 10. Comparison of SDPs Experiencing Stockouts in the Six Months Prior to Situation Analysis Visits, 1993 and 1996

	1993		1996*	
Contraceptive Method	**%**	**Number of SDPs**	**%**	**Number of SDPs**
Combined oral pills	9	380	14	285
Progestin-only pills	37	266	17	229
Injectables	7	378	19	281
Spermicides	19	361	12	268
Condoms	10	378	7	279
IUDs	10	203	10	177

1993 sample, n=399 public and private SDPs out of a total of 875
1996 sample, n=360 public and private SDPs out of a total of 1,178

* The 1996 Situation Analysis included diaphragms in the method mix. Our study did not look at the availability of diaphragms because they have been discontinued for the most part.

Source: Ghana Statistical Service 1997, 1994b

Our study found the overall frequency of stockouts to be high, with 17 of 21 sites stocked out of at least one product in the previous six months and 16 of 21 stocked out at the time of our visit. This situation was mostly related to a countrywide expiration of Neo-Sampoon, although Conceptrol and Ovrette were often out of stock as well. It was encouraging to find that the three most frequently requested products—condoms, Lo-Femenal, and Depo-Provera® had the lowest stockout rates. The breakdown of stockouts by product also appears in table 11.

Table 11. Number and Percentage of SDPs Stocked Out of Each Product at Time of Study Visit in October and during Preceding Six Months, October 1999

Product	**Number of Sites Stocking Product**	**% Stocked Out in the Last 6 Months**	**% Stocked Out at Time of Visit**
Neo-Sampoon	15	73.3	73.3
Conceptrol	21	47.6	28.6
Ovrette	18	38.9	27.8
Copper T	19	21.1	0.0
Depo-Provera®	21	19.0	0.0
Norplant	11	18.2	18.2
Condom	21	9.5	9.5
Lo-Femenal	21	4.8	0.0

Our findings for condoms, Lo-Femenal, and Depo-Provera® show that the situation has remained the same or improved slightly. However, the situation for most other products had deteriorated, in particular for Neo-Sampoon, due to expiries. It is difficult to draw conclusions, however, because the sample size of our study was too small to represent the countrywide situation.

Availability of Method Mix

Of the storage facilities and SDPs visited during our study, approximately one-half had the complete method mix in stock at the time of our visit (table 12). The complete method mix was defined as either of the two combined oral contraceptives, either of the two progestin-only pills, either of the two spermicides, condoms, and Depo-Provera®. IUDs and Norplant were included if the SDP had service providers trained in their insertion.

Table 12. Availability of Complete Method Mix, October 1999

District	District Store		District Hospital		Health Center	
	Number of Sites Visited	Method Mix Available	Number of Sites Visited	Method Mix Available	Number of Sites Visited	Method Mix Available
Sunyani	1	0	1	0	3	1
Asunafo	1	1	1	1	2	1
Shama Ahanta East	1	1	1	0	2	1
Nzema East	1	0	1	1	2	1
Okaikoi	1	1	NA	NA	2	1
Usser	NA	NA	NA	NA	1	0
Total	**5**	**3**	**4**	**2**	**12**	**5**

All 21 sites in the study offered the three most frequently demanded products: condoms, Lo-Femenal, and Depo-Provera®. Among these, 19 of 21 sites offered IUDs and 11 of 21 offered Norplant. This finding shows the benefit of the considerable investment in training that has accompanied GHANAPA's emphasis on promoting long-term methods. This training was motivated by long-term method targets linked to nonproject assistance funding, an element of HSR. Three of eight sites did not offer a progestin-only pill, indicating that additional training efforts might be required to make service providers fully conversant with all aspects of the entire method mix.

In general, and keeping in mind the limited number of study sites, it appears that contraceptive availability has reached an acceptable level during the HSR period. Of the 11 sites that did not have the complete method mix at the time of the study, five were missing two methods, and six sites were missing only one method.

Maintenance of Correct Stock Levels

Keeping stock levels between the minimum and maximum levels is indicative of proficiency in inventory management and, thus, in the overall efficiency of the system. A preponderance of understocks reduces the ability of the supply chain to react to disruptions in the system. Overstocks create inefficiencies in storage capacity and increase the probability of waste because of product expiration. They also increase inventory-holding costs and impede progress toward financial sustainability.

We collected information on stock levels for all sites. None of the study sites had a procedures manual for maintaining correct stock levels. The results for the three commodities most in demand appear in table 13.

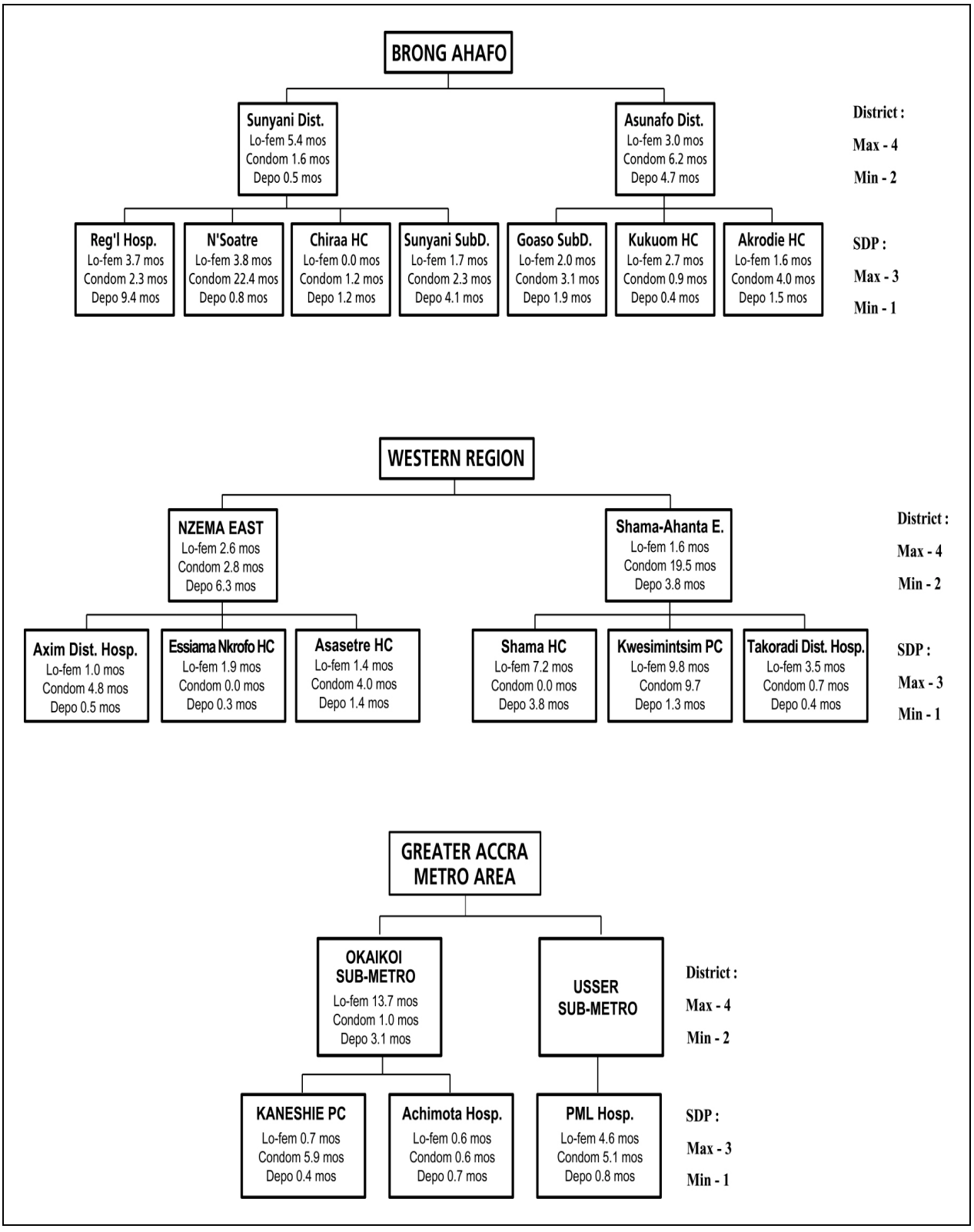
Table 13. Percentage of Condoms, Lo-Femenal, and Depo-Provera® Stocked According to Plan, October 1999

Facility	Min/Max Levels (months)	Number of Products Specified in Plan		% Products Stocked According to Plan
		Plan	Actual	
District Store (5)	Min 2 Max 4	15	5	33
SDP (16)	Min 1 Max 3	48	15	31

At the time of the visit, only one-third of the most demanded products were stocked according to plan, that is, between the designated minimum and maximum levels, Lo-Femenal was the most likely and condoms the least likely to be stocked at the correct levels. Figure 5 shows the stock levels by product, region, district, and facility type. Qualitative information gathered from these sites suggests that the stock imbalances were the result of inadequate reordering procedures rather than erratic client demand. At the majority of sites visited, the resupply quantities were often not filled in on reports and reorder forms. In addition, service providers often did not know the appropriate minimum and maximum levels, thus leaving the calculation of needed quantities to their supervisors at the next level.

The qualitative results from the 1996 survey corroborate our results, which found that management of resources was suboptimal with "inadequate inventory of supplies and storage facilities" in many cases (Ghana Statistical Service 1997). Therefore, training in this area has been ineffective.

Figure 5.
Months of Stock on Hand by Service Level at Time of Study, October 1999



Consistency of Stock Record Keeping

There was no procedures manual for stock record keeping at any study site. Maintenance and consistent use of record keeping cards—called "tally cards" in Ghana—was also found to be problematic. Consistent use of these cards was low; only 10 out of 16 SDPs used their tally cards regularly. In addition, tally cards were not consistently used to monitor stock transactions; thus, we could not determine historical stock movement from the cards. These results are consistent with the 1996 Situation Analysis, which found that only 56 percent of MOH clinics maintained a well-ordered record system for family planning commodities.

Although all SDPs reported performing physical inventories, the frequency of this activity was inconsistent, and there were no written records to verify they had been conducted. Of 15 sites, staff at three sites said they conducted inventories weekly; at 11 sites they said they collected them monthly; at one site they said inventories took place quarterly. Where possible, our study team's physical inventories were then compared to inventories recorded on tally cards. Condoms, Lo-Femenal, and Depo-Provera® were the high-demand products whose adjusted counts were least likely to match the physical inventory, while slow-moving products such as Norplant had a higher likelihood of matching the adjusted counts on the tally cards.

Acceptability of Storage Conditions

We assessed storage conditions according to a checklist of 11 criteria. The results showed that none of the five district storage sites had acceptable storage conditions, but 15 of 16 SDP sites did. The better storage conditions at SDPs are probably due to smaller quantities stored at this level rather than an indication of better training. No procedures manual for storage conditions existed at the study sites. Table 14 summarizes the problems we observed most frequently.

Table 14. Storage Site Assessment Results at District and SDP Levels, October 1999

Level	Number of Sites	Number of Sites With Acceptable Storage Conditions	Most Frequently Observed Problems	Number of Sites With Problems
District	5	0	Damaged and expired products not separated.	5
			Products not separated by lots.	4
			Products not arranged by FEFO.	4
			Structure not in good condition.	4
			Store not tidy.	3
SDP	16	15	Ceiling not in good condition.	6
			Damaged and expired products not separated.	5
			Products not arranged by FEFO.	4
			Store not tidy.	3
			Boxes not raised off the floor.	2

Frequency of Supervision

Results from both the 1993 and 1996 Situation Analyses point to unsatisfactory monitoring. For example, despite a rise in supervisory visits in 1996, almost 23 percent of all sites had not received a supervisory visit in the six months preceding the Situation Analysis study. Of the 313 SDPs visited in 1996, less than one-half (42.5%) had received at least one supervisory visit per quarter (table 15) (Ghana Statistical Service 1997).

Table 15. Percentage of SDPs Not Receiving a Supervisory Visit in the Six Months Prior to Situation Analysis Visits, 1993 and 1996

Facility Type	1993 % (n=366)	1996 % (n=277)
Hospital	38	24
Maternity	63	24
Clinic	46	19
PPAG	0	18
Total	**44**	**23**

Source: Ghana Statistical Service 1994, 1997

Infrequent supervision was not the only problem identified in the 1996 survey. Findings show that specific supervisory action of SDPs was mostly limited to answering inquiries about problems (58% of SDPs) and examining records (51% of SDPs). At only 16 percent of the SDPs did supervisors actually discuss the most recent logistics reports, suggesting that there was little feedback on the accuracy of the reports. One recommendation in the 1996 report was that supervisors visit at least four times a year and that they use supervisory checklists. Nevertheless, weaknesses persisted at least into 1998. The 1998 *Review of the POW* (Ministry of Health/Ghana 1999d) found "supervision and monitoring of maternal health and family planning related activities insufficient at all levels in 1998." A key reason cited was the insufficient Government of Ghana/Health Account budgets and the irregular release of funds. In contrast, our study found frequency of supervision to be improved. (Content was not measured.) Among the 16 sites visited, only two had not received a supervisory visit within the previous six months.

There are three possible explanations for the discrepancy between the 1996 Situation Analysis and our findings.

- Our sample is much smaller.
- Our study looks only at the public sector, which the Situation Analysis found performing above the national average.
- All the districts visited had a line item for supervision in their budgets.

Despite the apparent increase in supervision, it is important to keep in mind that when supervision does occur, it does not necessarily target contraceptive logistics. Respondents reported inconsistencies in supervision, for example: the supervisor was not always the same person. Or, the supervisor lacked a background in family planning or contraceptive logistics. In some cases, a regional rather than district representative was the person performing the supervision. All these situations increased the variability of supervision and, thus, its effectiveness. Although a checklist for regional supervision exists, district

supervision does not have the same uniformity or structure. Indeed, if supervisors had concentrated on contraceptive logistics, we would have found improvements in storage, stock record keeping, and physical inventories. Nonetheless, the fact that regular supervision takes place at all is an important achievement for the HSR program and an important asset that can be exploited to benefit logistics operations in the future.

Frequency of Training

> Training is initiated by [us], [and is] more specific to local needs…[we are] trained much more often than before. Before even during a five-year period [there were] no training and workshops, now things have changed, [there are]more training opportunities.
>
> —Western Region, Nzema East District

One of the main intents of decentralization was to allow the DHMTs to identify local training needs and, by establishing the BMCs, enable them to plan and budget to meet those needs. The results of the 1998 review of the MTHS action plan states that this strategy has been partially successful, and a substantial effort has been made to provide more in-service training (Ministry of Health/Ghana 1999d). Our study verifies that frequency of training has increased.

A finding that emerges from both the 1996 Situation Analysis and the 1997 review of the MTHS is the pronounced regional variation in the quantity and quality of training. Even with the increase in training opportunities, control mechanisms to monitor the quality of the training are not in place. The Situation Analysis found that training was not necessarily provided to appropriate individuals. Neither were staff providing family planning services nor were they necessarily participants in family planning refresher-training courses (Ghana Statistical Service 1997). In addition, because of scarce resources, a qualified trainer does not always provide training. Qualitative responses during our study indicated that in many cases, the restricted number of individuals from each district and SDP who go to the region to receive training are expected to come back and train their colleagues. In reality, this second-level training is more of an orientation to providing family planning services than training because it is not competency based.

Lack of uniform training across regions is one consequence of the decision to allow districts and regions to decide autonomously which training opportunities to offer. In addition, regions and districts are not required to include contraceptive logistics training in their training plans. According to the action plan review in 1998, only four of the 10 regions reported offering family planning logistics management training in that year, and only one of the 10 regions offered training in stores management and stores procedures (Ministry of Health/Ghana 1999d).

Our study found regional variation in the training that staff received in family planning logistics management. Examples include training along vertical program lines according to donor or project perceptions of needs or according to the MOH perception of regional needs. All planning and implementation for training activities seemed to be spontaneous.

Almost all health centers and districts had one staff member who received logistics training. However, the numbers trained were not consistent: facilities in the Greater Accra and Western regions had a larger proportion of staff trained in contraceptive logistics than did Brong Ahafo.

An especially worrisome finding was the response of many providers when asked if they had received training in logistics management. The first answer was frequently *No.* Only when questioned further did they remember this training. In some cases, less than a month had passed since training, indicating that the training had not left a lasting impression and supporting the finding that training had been unplanned.

Health Reform and the Pharmaceutical Sector

National Drug Policy

Ghana began developing a national drug policy in 1988 by establishing the national formulary and developing the EDL. Ten years later—in May 1998—the National Drugs Policy (NDP), which follows the standard format and content established by WHO, was submitted to Parliament for approval. The NDP is intended to serve as a comprehensive framework for all activities and regulations in the pharmaceutical sector.

NDP was the first output of the GNDP created in 1997 to help address coordination issues and introduce long-term planning in the pharmaceutical sector. This five-year program's intended function is to oversee the drugs component of the MTHS. The GNDP and NDP share a common goal, namely, to ensure that all people in Ghana have access to effective, safe, and affordable drugs of good quality, in both the public and the private sector, and that these are rationally used (Ministry of Health/Ghana 1998c).

The GNDP has 11 stated objectives that fall into the following four categories:

- Promoting rational drug use.
- Strengthening quality assurance.
- Improving the financing system for drug procurement.
- Improving the drug supply system.

To achieve these objectives, GNDP works closely with other MOH structures, particularly with the MOH Pharmaceutical Unit and the SSDM.

Developments in SSDM

The poor performance of the public sector drug logistics system has concerned the MOH for many years (Rankin et al. 1993). Several assessment surveys have been carried out to identify areas of improvement; two of the most recent surveys identified specific weaknesses in the drug logistics system, in general, and the CMS, in particular (Rankin et al. 1993). In 1990, the Geneva-based International Trade Center carried out a study of the Ghanaian supply system, and in 1993 the Rational Pharmaceutical Management (RPM) project made an overall assessment of the pharmaceutical sector (Rankin et al. 1993). Both studies found the drug logistics system to be performing below par. The problems were related to—

- Lack of supervision at all levels.
- Lack of effective stock-control systems.
- Distribution of supplies regardless of need.
- No record of past consumption.
- Inconsistent supply of funds.

Measuring product availability provides a good litmus test for the functioning of a logistics system. The RPM assessment tracked the availability of 21 tracer drugs in 1993 at 26 facilities spread across all levels of the health system. The results, presented in table 16, corroborate the poor functioning of the logistics

system. Despite availability of all drugs at the central level, health facilities, on average, had only 60 percent of the drugs available, an indication of problems with the transport and distribution of drugs.

Table 16. Percentage of Tracer Drugs in Stock at All Levels, 1993

Facility (n)	Percentage of 21 Tracer Drugs in Stock
Central medical store (1)	100
Regional medical store (5)	87
Health facility (20)	60
Regional hospital	70
District hospital	76
Health center	48

Source: Rankin et al. 1993

The RPM study also found the cash-and-carry system, with a recovery rate of less than 100 percent, to be decapitalizing. The system had been recapitalized once—in 1990. Three years later, the RPM assessment found that CMS pricing policies were still "not adequate to achieve the stated goal of covering replacement cost," much less to recoup any additional handling costs. A major reason was the lack of uniformity in drug mark-up. The assessment found that none of the imported drugs in the list of tracer items matched the designated norm—namely, a 35 or 40 percent mark up for imported drugs. The tracer drug sample showed an average mark up of 23 percent (Rankin et al. 1993).

Another factor inhibiting full cost recovery may be related to the way in which BMCs manage the funds generated by the cash-and-carry system. In 1993, BMCs were still not fully trained in planning, budgeting, and financial management. Furthermore, accounting procedures were not clearly established. The combination of these factors likely contributed to suboptimal use of funds generated by the cash-and-carry system.

To strengthen the cash-and-carry system, the MOH made reorganization of the SSDM part of its MTHS reforms, with the intent to improve drug procurement by strengthening MOH procurement capacity and improving store management, logistics, and supplies. The SSDM was reorganized into two units, a procurement unit and the CMS, responsible for storage and distribution. The reorganization was accompanied by a new set of SSDM objectives, including—

- Establishment of timely procurement of all consumable goods for the public health sector in optimal quantity, of the best possible quality, and at the most competitive price.
- Establishment of good storage and distribution systems for all goods, with appropriate linkages to the procurement systems.
- Establishment of a good management system for cost recovery.

Procurement Unit

Before the SSDM was reorganized, procurement was being carried out by the general purpose Ghana Supplies Commission (GSC), which also handled nonhealth commodity procurements. Since reorganization, the national-level Procurement Committee approves the yearly drug procurement plans and endorses all intended purchases. A logistics officer at SSDM facilitates the relevant documentation and procedures required for port clearance.

The GNDP also developed and disseminated a procurement manual to improve the efficiency of acquiring drugs at all levels of the distribution chain. Training in the use of the manual, which includes detailed procurement guidelines and procedures, began with a training of trainers at the national and regional levels in 1998 and continued into 1999 (Ministry of Health/Ghana 1999e). The intention is to train 800 procurement officers at all levels.

Establishment of the new procurement unit and procedures was aided by 18 months of technical assistance provided by SNV. Although the long-term assistance contract with SNV expired at the end of 1999, the Dutch will continue to provide short-term assistance to help fill the capacity gap at the central level (Boateng 2000).

There is a need for procurement support at lower levels as well. The 1999 GNDP baseline study found that only 20 percent of public health facilities had established reorder stock levels for drug items, and that at most sites respondents were unfamiliar with the concept of reorder stock levels (Ministry of Health/Ghana 1999d). In addition, only 28 percent of public-sector facilities had drug procurement committees; for the most part, these committees met only once a year. Only 3 of 22 facilities (14%) had purchasing committees responsible for approving procurement. The vast majority of public facilities (94%) had no procurement plans and no procurement budgets**.**

In general, the following problems have been identified in the procurement system:

- A long lead time between placement of an international order and delivery.
- Poor planning and control of outstanding contracts.
- Insufficient drugs (only 60% of those preferred by clients) available at CMS.

Specific activities in which SNV will provide future assistance include the following:

- Coordination of regional and district BMC training on the procurement procedures manual.
- Development of a monitoring and evaluation system that allows the unit to monitor progress in the system (Boateng 2000).

MTHS reforms aimed at improving procurement capacity at the district level were not fully implemented at the time of this study. The study team found a lack of procurement and purchasing committees at the district level. Two of the five districts surveyed had a purchasing committee; two of the five had a committee that performed needs quantification. Procurement committees play a critical role in implementation of procurement guidelines detailed in the manual.

Capacity building in financial management for BMCs is also necessary to ensure effective procurement at all levels. BMCs, a critical component of health reform, are designed to enhance decentralization by allowing districts to manage and plan their own budgets for meeting local targets and needs. In 1998, as part of the effort to implement functioning BMCs, DHMT members—especially pharmacists and accountants—were trained in planning, budgeting, and financial management. Increased capacity building activities specifically related to financial management have helped BMCs manage their funds better. A budget development guideline package, produced by the MOH and delivered in 1998, was accompanied by regional training sessions. As a result, all 10 regions were submitting 100 percent of their consolidated quarterly expenditure reports by mid-1998, contributing to an increase in reported IGFs from 20 billion cedis in 1997 to 34 billion cedis in 1998 (Ministry of Health/Ghana 1999d).

At the same time, regulations concerning sources of drug purchases by RMSs and DMSs have been relaxed. Previously, medical stores at the regional and district levels were allowed to purchase from the CMS or RMS alone. They can now purchase products from private drug sellers under the following conditions:

- Quotations must be obtained from at least three sources.
- CMS and RMS, depending on level, must be included as one of the three sources.
- Procurement outside the public-sector drug system can take place only if the CMS or RMS issues a *certificate of nonavailability*.

Central Medical Stores

One of the primary objectives of the POW is to transform the CMS into a more autonomous business concern (Ministry of Health/Ghana 1999d). Many consultants have highlighted the main problems and constraints that the CMS and RMS are experiencing (Rankin et al. 1993). Some of the problems that were identified are—

- A management structure that is ill-defined and not functional.
- Lack of supervision.
- No definition of tasks, responsibilities, targets, and performance appraisal.
- Lack of a business-minded or service-oriented approach.
- Divided loyalty of personnel between the Ministries of Health and Ministries of Finance.
- Lack of systems for monitoring, coordination, and supervision.
- Lack of an effective distribution plan or system.
- Weak inventory control.
- An automated inventory control system at the central level that is neither validated nor accessible to all staff.

Three different strategies to improve the situation have been recommended by consultants but none has yet been implemented (Haperen 1999). However, as an initial step toward choosing a point person to improve CMS performance, the MOH had added a new management position.

Measures aimed at strengthening procurement capacity and drug logistics, although dependent on World Bank recapitalizations of CMS, have increased the availability of drugs at SDPs. In 1998, five years after the RPM assessment, GNDP conducted a second survey of drug availability at 121 institutions in the public and private sectors. The findings show that efforts to improve the system had increased drug availability. Table 17 shows results for 30 tracer drugs at regional, district, and SDP levels in 1999. Comparing these results with table 16 shows considerable improvement since 1993.

Table 17. Percentage of Tracer Drugs in Stock at All Levels, October 1999

Facility (n)	Percentage Availability of 30 Tracer Drugs
Regional medical store (10)	92
District medical store (4)	89.5
Public health facility (49)	83
Mission health facility (14)	88
Private health facility (16)	81
Pharmacy (12)	91
Chemical shop (30)	50

Source: Ministry of Health/Ghana 1999d

The Cash-and-Carry System

Our findings suggest that if CMS continues to follow present practices, decapitalization is a likely outcome. The revolving drug fund now managed by SSDM has been recapitalized twice by the World Bank (1990 and 1996) since implementation of the cash-and-carry system. Specifically, the combination of credit-and-carry and problems with the exemption policy suggests that another recapitalization may be required.

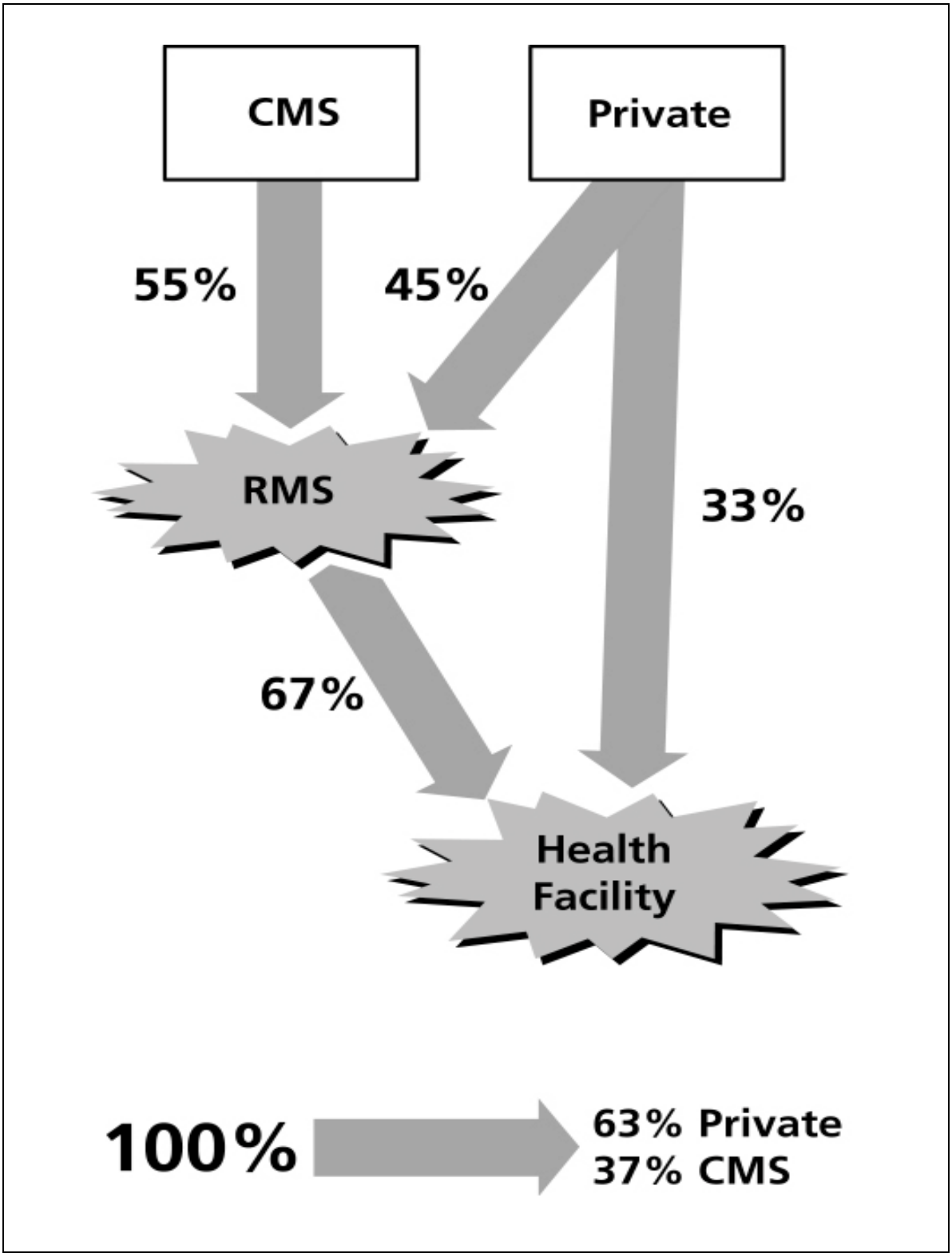
Inherent in CMS's new role is ambivalence between a public health orientation and financial solvency. The government is not yet prepared to privatize CMS fully because such an action would jeopardize one of public health's major responsibilities: to serve the most needy sector of the population. When an RMS comes to CMS without the cash, CMS provides commodities on credit. When a DMS does not have sufficient cash to purchase drugs from the RMSs, it receives the commodities on credit. As a result, the system has become more credit-and-carry than cash-and-carry, with the total of outstanding debts to CMS as a percentage of capital growing to 14.4 percent in 1998 (Haperen 1999).

CMS solvency has been further threatened by the growth in the value of exemptions since the beginning of 1998 when the official policy on exemptions for drug payments for certain categories of clients was enacted. The commercial-style cash-and-carry system was established to relieve the Government of Ghana from the burden of drug purchases. However, through the exemptions policy, the government is reshouldering a portion of burden in the interest of public health. The MOH implemented the exemptions policy after realizing that user fees and cost recovery were reducing the use of health services by marginalized groups. Such clients are now able to receive drugs free, but the dispensing facility must wait to be reimbursed for the exemptions. Significant delays in reimbursements affect funds available for stock replenishment (Ministry of Health/Ghana 1999a). In addition, the average reimbursement received by facilities is only 73 percent of exemptions granted, further eroding capital bases at operational levels (Ministry of Health/Ghana 1999a). According to the GNDP survey, the existing level of operation of the exemption-reimbursement system could threaten the viability of revolving drug funds in some facilities.

Drug Purchases by Source

The significant amount of drug purchases from the private sector threaten CMS's future. By virtue of the decentralized procurement responsibilities embodied in the new procurement procedures manual, district levels have more power to determine which drugs to buy and where to buy them. Three different assessments—the 1999 GNDP survey, 1998 POW review, and 1996 CMS Situation Analysis—all found that a substantial portion of drugs are purchased by public health facilities from private vendors. Funds used for private purchases are generated from the sale of drugs obtained on credit through the CMS system. As credit flows out of CMS and is not replenished, the revolving drug fund continues to be decapitalized. As shown in figure 6, more than one-half of the drugs available at the regional level and below are purchased through the private sector.

Figure 6.
Estimates of Percentages of Drug Purchases, by Source, 1999



The main reasons cited for open market purchases were product unavailability at CMS and RMS, convenience, and lower prices (Haperen 1999). Our study findings were similar. Districts told us that they purchased a growing percentage of their drugs from private-sector suppliers, as opposed to a purchase from RMSs, for the following reasons:

- *Cost*: They were given better prices by private drug sellers.
- *Convenience*: The private drug sellers were much closer than the RMS and delivered the products free of charge to the DMS.
- *Credit*: They received one month of credit rather than having to pay in cash on the spot. (In many cases, the DMSs are already in substantial debt to a CMS or RMS.)
- *Quality*: Private drug sellers had higher quality products because of better storage practices. For example, CMS products included crushed tablets, and leaking and broken bottles.
- *Brands*: In many cases, doctors requested specific brands that could not be purchased at an RMS.

To find out if products purchased on the open market were cheaper than those bought from the RMS, we compared prices for four districts. The results suggest that when a DMS procures contraceptives from a private source, they can often get a price that competes favorably with that offered by an RMS (table 18).

Table 18. Percentage Differences in Public and Private Sector Pricing in Study Sample, October 1999

Drug	Difference (%)
Vitamin C (100 mg tab)	29.4
Metronidazole (tab)	23.1
Metronidazole (60 ml amp)	23.1
Albendazole (400 mg tab)	20.7
Paracetamol (200 mg tab)	13.8
Ampicillin (500 mg inj)	12.8
Flucloxacillin (250 mg cap)	11.9
Dextrose (590 infusion)	10.7
Ringer's Lactate (bag)	10.7
Amoxycillin (250 mg cap)	8.5
ORS (sachet)	5.3
Average savings over RMS	**15.5**
Oxytocin (5 mg inj)	0.0
Chloroquine (inj)	0.0
Pethidine (100 mg inj)	-11.1
Co-Trimoxazole (60 ml amp)	-11.1
Amoxycillin (60 ml amp)	-75.0
Average loss compared to RMS	**-32.4%**

Note: Drugs listed reflect the 10 most recent transactions.

Overall, efforts aimed at improving the drug logistics system appear to be successful, as shown by increased availability of drugs at SDPs. However, this improvement is closely tied to the 1996 World Bank infusion of funds used to recapitalize the cash-and-carry system. CMS does not generate sufficient income to maintain the revolving drug fund. Over time, this kind of situation leads to reduced drug purchases and decreased drug availability throughout the system. Although drugs are currently more readily available than before, financial dependence on World Bank credits remains.

8. Findings

Many changes now occurring in Ghana's health system are part of the nation's overall health reform effort while others focus on specific elements of the health care system. In general, we found that HSR efforts in Ghana have done no harm to the contraceptive logistics system. Nor have they resulted in any measurable improvements. This situation may be largely attributable to contraceptive supplies that are still exclusively donor supported and a logistics system that remains vertical.

Logistics Functions

Our study team was able to identify four process indicators with direct links to logistics management. Linking the process indicators to the outcome indicators did not demonstrate real progress in improving logistics management. Table 19 summarizes the accomplishments in contraceptive logistics by 1999 and the constraints faced by the logistics system.

Table 19. Contraceptive Logistics Functions: Accomplishments and Constraints, October 1999

Accomplishments	Constraints
General	
Family planning services remain well funded.	Family planning services remain heavily reliant on donors.
Product Selection	
Use of long-term methods increasing.	Service providers not well trained in all methods.
Financing	
Stable and sufficient financing to cover increasing yearly consumption of contraceptives.	Complete dependence on donors for commodities. Introduction of new donors (DFID, JICA) leading to greater need for donor coordination.
Forecasting	
Dispensed to user data reaching central level and can be used for forecasting.	FH Unit at the central level still dependent on external assistance to complete annual forecasts.
Procurement	
Establishment of door-to-door shipments for USAID contraceptives drastically reducing delays in port clearance.	Poor coordination and timing of procurements of non-USAID procured contraceptive commodities. If structural integration and restructuring of the MOH is implemented, untrained personnel at the procurement unit will be responsible for contraceptive procurement.

Accomplishments	Constraints
Storage	
Acceptable storage conditions the norm at SDPs.	Unacceptable storage conditions are the norm at districts. Inadequate training and supervision contributing to poor storage of contraceptives compared to drugs. Contraceptives perceived as having less value than drugs and stored less well. Contraceptives and drugs often being managed by different personnel even if stored in the same building, leading to duplication of efforts.
Inventory Control	
Pipeline shortened to decrease waste and risk of expiry. Well-functioning LMIS s for contraceptives with over 90% reporting rates from the SDP level. First steps taken to incorporate contraceptive products into the computerized inventory system for drugs.	Service providers unclear on accepted minimum and maximum levels and resupply quantity calculations due to absence of standard procedures. Risk of losing contraceptive LMIS if integration with drug information system occurs.
Transport	
Funds generated through contraceptive sales helping to ensure reliable transport of supplies to SDPs and districts.	Vertical management of program leading to inefficient use of limited transportation resources. The MOH vehicle fleet no longer sufficient to ensure transportation throughout the system.
Human Resources	
Nearly all districts and SDPs visited received contraceptive logistics training in the past 2 years.	Training provided by the Ghana Institute of Management and Public Administration allotting little time for logistics management. Sole-purpose logistics person for FH Unit missing at central level. Procurement unit personnel untrained in contraceptive forecasting and procurement. Storekeepers that manage contraceptives MOF, not MOH, employees and not trained in contraceptive management. Supervisors missing opportunities to reinforce skills learned in training.
Product Availability	
Significant improvement in overall contraceptive availability.	Increased number of donors and poor donor coordination in managing stock (e.g., Microgynon and Micronor).

With regard to supervision, we found no explicit focus on contraceptive logistics despite more frequent SDP supervision. This may be due, in part, to the lack of consistent supervisory visits to the health centers and the fact that not all supervisors are trained in logistics management. The lack of a clear link between the training that supervisors and service providers receive and the actual supervision that is performed represents a missed opportunity to reinforce material presented through formal and informal training activities.

The ultimate goal of the logistics system is to ensure that products are available when and where needed. The process indicator regarding training shows that training is being provided for health personnel (table 20), although the exact frequency is unknown. However, we must be suspect about the quality of the training. The results for contraceptive storage and inventory management do not show evidence of competency based training, and the failure of several providers to recall recent training in logistics speaks poorly of the depth of the training.

Table 20. Staff Logistics Training at District and SDP Levels, October 1999

Process Indicator	District Level	SDP Level
Number of facilities with someone trained in contraceptive logistics management	5 out of 5	15 out of 16
Average number of staff per facility trained in contraceptive logistics	2.4	1.7

Despite the increased frequency of supervision and training, the prescribed minimum and maximum levels are not being followed, stock record keeping forms are not being completed, stock cards are poorly kept, and district-level storage conditions do not meet acceptable standards. On the other hand, although only one-third of districts and SDPs were stocked according to plan, almost every site was stocked with the three most commonly used contraceptives.

The goal of having a sufficient number of operational vehicles at each level of the health care system has not yet been realized. As a result, staff at different levels have devised alternative transportation mechanisms to meet the contraceptive needs of their clients. For example, cost recovery systems along with decentralization allow service providers to use private-sector transport for contraceptive pick-up and delivery. Some districts have negotiated arrangements with private drug sellers that include delivery of goods, an alternative that decreases the burden on districts' transport resources but encourages procurement outside the CMS-RMS system.

In sum, we found that although the activities measured by the four process indicators are being undertaken, the system basically performs the way it did prior to MTHS implementation. This means that the process indicators underlying the HSR effort, which one would expect to have direct, positive effects on the contraceptive logistics system, have not yet led to measurable changes in the system.

Coordination

The SSDM is currently the governmental entity responsible for overseeing all drug logistics functions and any changes taking place within the context of HSR. However, we found no clear indication as to how the FH Unit will be able to influence the future of family planning logistics. Training for SSDM staff has focused on drug procurement, but no specific training in any aspect of contraceptive logistics is provided.

Donor Support and Financing

HSR efforts pertaining to logistics management appear to focus more on essential drugs than on contraceptives or vaccines. Perhaps this is because donors, who have maintained a relatively consistent level of funding over the past five years, provide almost all contraceptives and vaccines. As a result, the support systems managing the movement of these products through the system has largely been untouched by the reform efforts.

Cost Recovery

Perhaps the CMS goal to accomplish full cost recovery for drugs is unrealistic. Clearly, the MOH is somewhat ambivalent about the cash-and-carry system, with the CMS pulled between being a business-oriented operation and a public health support entity. Delayed and insufficient reimbursement of exemptions and the credit-and-carry system have led to increasing decapitalization of the CMS drug fund.

The attempt to exclude any line item for drugs in the health budget has been compromised by the MOH's resuming responsibility for reimbursing the cost of certain exempted client categories. In addition, the CMS provides the commodities on credit. Repayment by the lower levels is problematic. Further compounding this problem is the DMS purchase of 30 to 40 percent of its drugs from private drug sellers. The likely solution is to mount another recapitalization effort with World Bank credits in the not-too-distant future.

In terms of cost recovery for contraceptives, DHMTs appear to focus on managing supplies, such as drugs, for which they are monetarily accountable. Because family planning commodities are donated and actually serve to generate funding through the SDP cost recovery mechanism, the DHMTs seem to be managing contraceptives less stringently. However, the service delivery staff appear to be using the funds generated through sales of contraceptives in a responsible and appropriate manner, paying for distribution costs of commodities and procuring the expendable nondrug consumables required to deliver quality family planning services. Because MOH transportation resources remain insufficient, health centers routinely use private carriers to resupply their centers with contraceptives.

Privatization

Family planning services are also being increasingly provided by private practitioners such as midwives, although they still generate a small proportion of total CYPs. We observed that certain responsibilities have shifted from the public sector to the nonpublic sector, particularly with regard to family planning services and commodities distribution. (We use the term "nonpublic sector" in place of private sector because the nonpublic sector includes entities such as GSMF and PPAG, which are not considered purely private ventures by virtue of their highly subsidized nature.) The shift means that the distribution of some family planning services and commodities, particularly condoms, has left the MOH system. Nevertheless, the MOH system is still the primary provider of family planning services and commodities.

Decentralization

Decentralization appears to have resulted in increased feelings of empowerment by DHMTs, who feel capable of identifying and implementing activities to meet their needs. However, this situation does not appear to have translated into improved performance in contraceptive logistics. For example, DHMTs decided to provide logistics training for staff, but the training led to little measurable improvement in performance, largely because of the unstructured, noncompetency-based nature of the training.

BMCs have also been targeted for capacity building. Their newly acquired skills in accounting procedures, budgeting, and planning appear to have improved financial management and use of cash-and-carry revenues.

Integration

Although integration of reproductive health services with other health services has occurred, structural integration of management and logistics support services has yet to take place. The contraceptive logistics system is still vertically managed and remains unaffected by such factors influencing drug logistics as decapitalization of the cash-and-carry system. If structural integration of the drug and contraceptive logistics systems is to take place, the data required to maintain the contraceptive logistics system—the amount dispensed to users, stock on hand, and adjustments and losses—might no longer be collected or aggregated. The current drug logistics system does not have a mechanism for collecting such data.

9. Recommendations

The MOH is responsible for assuring that all clients are offered quality health and family planning services, including a full range of contraceptive methods. The MOH should take the following actions so that the logistics system will be better able to help it achieve this goal:

1. Develop and disseminate a manual clarifying inventory control and stock management procedures to serve as the base for training.

2. Strive to improve logistics training offered to staff at the SDP and district levels.

3. Develop training or other performance improvement approaches that specifically address a gap identified during the study, namely, the nonavailability of progestin-only pills at SDPs despite their availability at district stores.

4. Ensure that supervision monitors staff conformance with the logistics procedures established in the training manual and taught during training.

5. Ensure that contraceptive logistics is included on the supervisory checklist for regional supervisors. If a district-level checklist is developed, it, too, should include contraceptive logistics.

6. Improve storage of commodities at the district level. A simple checklist, such as the one used in our study for data collection, should be made part of the supervisory checklist.

7. Improve the coordination of transportation, particularly at the SDP level where transport faces significant resource constraints. One mechanism for coordinating transportation is to develop synchronized resupply schedules. Also, all districts should designate a staff person to be responsible for transport coordination.

8. Revise the cost recovery goal from 100 percent to a more realistic amount. This action, combined with appropriate budget actions and improved implementation of the exemption policy, should slow decapitalization of the revolving drug fund.

Further, MOH personnel from different divisions, donors, and collaborating agencies must work together to assure that reforms, when implemented, address common goals and do not result in reversals in public health achievement. A coordinated effort must be made to undertake the following:

9. Prepare the local health system for any further moves toward structural integration by involving the SSDM in donor coordination of contraceptive supply and in contraceptive forecasting.

10. Improve donor coordination to prevent such problems as the nonavailability of certain contraceptives, overstocking, and the subsequent expiration of contraceptives. In this way, brand substitution for contraceptives may also be minimized

11. Develop a detailed plan outlining how integration of drug and contraceptive logistics systems is to be accomplished before proceeding with integration of management support systems.

12. Ensure the active involvement of the FH Unit in developing the plan. The plan should include harmonized LMIS forms, coordinated resupply intervals, and clearly designated supervisory and training responsibilities to guarantee that contraceptive logistics will benefit from opportunities created by the reforms.

13. Ensure that future HSR developments do not compromise the viability of the contraceptive LMIS.

Appendix A.
Overview of Population Policies, the Health System, and Family Planning Services in Ghana

National Population Policy

The Government of Ghana issued its first population policy in 1969, a time when the annual growth rate stood at 2.4 percent. Twenty years later, a National Population Conference Report noted the lack of progress in achieving the policy's goals and called for creation of an agency to oversee population and human resources activities.

The National Population Council (NPC) was subsequently created in 1991 (Adamchak 1995). Its Secretariat is supported by five technical advisory committees drawn from the public and private sectors, local universities, and NGOs. In 1993, when the annual growth rate was close to 3 percent and the TFR stood at 5.5 births, the Ghana Health Service (GHS) conducted its first Situation Analysis of the country's family planning services. The report attributed these high fertility and growth rates to early marriage for females, the prevalence of marriage in Ghanaian society (99 percent of women marry at least once by age 30), and the decline in traditional contraception (Ghana Health Service 1997).

The 1993 Situation Analysis helped identify barriers to the use of family planning services, namely, that although many people knew about modern contraceptive methods and where to obtain contraceptives, few were able to use family planning services because of poor accessibility and possibly supervision, and provider bias. The study concluded that an increase in contraceptive prevalence depended on stimulating the demand for smaller families.

The study also provided targets for lowering population growth and increasing contraceptive prevalence. After debates and consultations with a wide spectrum of institutions and individual Ghanaians, the government issued a new population strategy in 1994, the Revised National Population Policy, whose goals were aligned with the development agenda outlined in *Ghana Vision 2000*. The goals were as follows:

- Systematically integrate all population issues in all aspects of development planning and activities throughout the administrative structure.
- Promote awareness of population issues and the implications of rapid population growth.
- Educate Ghanaians about the value of small family size.
- Ensure the accessibility and affordability of family planning services.

Targets for curbing population growth and increasing contraceptive prevalence, developed from the 1993 Situation Analysis, included the following:

- Reducing the annual population growth rate by half, from 3 percent in 1993 to 1.5 percent by 2020.
- Reducing the TFR from 5.5 in 1993 to 5 births per woman in 2000, 4 in 2010, and 3 by 2020.

- Increasing modern contraceptive prevalence rates from 10 percent in 1993 to 15 percent in 2000, 28 percent in 2010, and 50 percent by 2020.
- Making family planning services available, accessible, and affordable to at least one-half of all adults in need of such service by the year 2020.

Ghana's Health System

Ghana has four main types of health care providers: public (MOH); private not-for-profit (mission-related); private for-profit; and traditional medicine practitioners (World Bank 1997).

For the majority of Ghanaians, the first point of contact for health care is likely to be a traditional practitioner. The public sector is the dominant provider of formal, modern health services. The mission sector is estimated to cover 30 percent of the people seeking health care—predominantly in rural areas. As a consequence of collaboration between the mission and the public sector, the government provides salaries for many health workers at mission facilities. The private for-profit sector, composed of physicians, midwives, pharmacists, and laboratory technicians, appears to be expanding rapidly in urban areas (World Bank 1997).

Absolute resources for the health sector have been shrinking since 1990, as has the proportion of government recurrent funds expended in the health sector. Government spending on health declined from U.S.$10 per capita in the late 1970s to between U.S.$4 and U.S.$6 per capita in the early 1990s, which represents between 1 and 1.5 percent of gross domestic product. This decrease places Ghana among the lower half of sub-Saharan countries in terms of government spending on health.

As is true elsewhere, the poor benefit proportionally less from public spending; Ghanaians from the lowest income quintile received 12 percent of public expenditures on health compared to 33 percent for the top quintile in 1992–1993 (World Bank 1997).

Government funding accounts for the majority of health expenditures; donor contributions represent a fairly modest proportion (table A-1). In fact, the 1997 and 1998 figures for actual expenditures indicate a trend toward increased self-reliance.

Table A-1. Sources of Funding for Health System, by Percent, 1997–1998

	1997 (Actual) %	1998 (Target) %	1998 (Actual) %
Government of Ghana	46	49	54
Financial credits	32	30	27
Internally generated funds	6	5	10
Donors	16	16	9

Source: Ministry of Health/Ghana 1999d

In 1998, the total target budget for health was U.S.$170.6 million, with government funds, including internally generated funds (IGF), accounting for 54 percent of the budget. At that time, commercial loans (i.e., financial credits) had been expected to generate another 30 percent. However, donor funding, which represented 16 percent of the target budget (Ministry of Health/Ghana 1999d), did not materialize at the levels projected. In fact, it had decreased from 16 percent in 1997 to 9 percent. In addition, commercial loans did not generate as much as expected (27% rather than 30%).

To cover this deficit, the Government of Ghana funding had to surpass its intended level of increase; IGFs also made a larger contribution than planned.

Family Planning Services

USAID, the largest donor for family planning activities in Ghana, has supported population and family planning in Ghana since 1968. This assistance has included a specific focus on contraceptive logistics. USAID also funded the Contraceptives Supplies Project from 1985–1992 with the goal of helping Ghana establish a public-sector contraceptives management system.

With much donor funding going into a common basket just before and then during the Medium Term Health Strategy (MTHS) reforms, family planning has continued to receive funding directly from USAID and also from other donors. The period just prior to MTHS implementation coincided with the later phase of USAID's Family Planning and Health Program (FPHP). This program, which ran from April 1991–March 1996, aimed to lower fertility through maternal and child health interventions and to reduce the spread of HIV/AIDS (Adamchak 1995). Its funding components were nonproject assistance (U.S.$13 million), the family planning and health program (U.S.$15.5 million), and the contraceptive procurement project (U.S.$6.5 million). Earmarked funding for family planning continues to some extent through the follow-on to the GHANAPA project discussed below.

The Family Planning and Health Program

The National Population Council has supported government efforts to increase demand for and use of modern methods by expanding the public- and private-sector capacity to provide family planning and maternal and child health services, supplies, and information. In turn, FPHP and CPP supported creating demand for contraceptives through education, training, and advertising; delivery of contraceptives and other health-related services and commodities, with an emphasis on social marketing of short-term methods; improved logistics systems; use of the management information system to monitor the rate of contraceptive use; and HIV sero-surveillance (Adamchak 1995).

The conditions attached to FPHP's nonproject assistance funding (i.e., establishing the National Population Council; expanding the EDL to include oral contraceptives; eliminating price controls for contraceptives; and developing and adopting a revised national population policy mechanism) influenced subsequent modifications in population policy (Adamchak 1995). The 1993 Demographic and Health Survey showed that FPHP was helping Ghana meet its fertility targets more quickly than anticipated (Macro International 1994).

The GHANAPA Project

To build on FPHP successes and address the HIV/AIDS issue, USAID launched the five-year GHANAPA project in 1994 (Bowers et al. 1999). It overlapped FPHP for two years. With U.S.$45 million in nonproject and project assistance, its goals were as follows:

- Increase use of long-term family planning methods from 20 to 40 percent.
- Increase contraceptive prevalence to 20 percent.
- Increase awareness and practice of HIV/AIDS risk-reduction behavior by increasing condom use and improving knowledge of HIV infection prevention.

GHANAPA also developed new service delivery guidelines, thus emphasizing the delivery of family planning within an integrated maternal and child health-primary health care program. The guidelines were in line with the MOH goal of integrating reproductive health services (Bowers et al. 1999). Three of GHANAPA's approaches mirrored HSR efforts, namely, nonproject assistance, cost recovery, and privatization efforts. The cost recovery goal paralleled the MTHS goal of promoting private-sector involvement in service delivery, MOH's and USAID's vested interest in seeing Ghana's family planning program move towards financial sustainability (MOH/USAID 1999).

To support cost recovery and contraceptives, the MOH and USAID commissioned a pricing strategy analysis in 1998. The aim was to revise contraceptive pricing policy so that it would accomplish the following:

1. Address issues of financial sustainability by stemming the decline in cost recovery by keeping pace with inflation.
2. Address private-sector participation and leakage by narrowing the public-private price differential.

The revised pricing strategy was more aggressive for short-term than for long-term methods. The MOH now wanted to shift short-term method users to the private sector and focus public resources on promoting the use of long-term methods. The latter are less costly in the long run (MOH/USAID 1999).

A 1999 assessment of GHANAPA's performance by TvT Associates found that GHANAPA had produced significant accomplishments, as follows:

- Availability of affordable short-term method prices for oral contraceptives and condoms from GSMF.
- Establishment of an orderly, efficient, and effective contraceptive management system.
- Establishment of protocols and guidelines for standard service delivery.
- A decline in TFR from nearly 5.5 in 1993 to 4.6 in 1998.

Nevertheless, the project fell short of its overall goals due to unrealistic expectations and inadequate financial support from both the Ghanaian government and USAID (Bowers et al. 1999). NPA, for example, was supposed to promote increased government allocations to family planning, thus reducing reliance on donors. However, government funding of the MOH's FH Unit did not increase, and contraceptive supply and distribution are still totally reliant on donor support. Although GHANAPA's intent was to launch a concerted information, education, and communication (IEC) campaign promoting long-term methods, the MOH's Health Education Unit was unable to take the lead in the campaign. NPA did not reach the unit, and MOH funding was insufficient for mounting a *harmonized multilevel approach* consisting of mass media campaigns, community mobilization, and clinic-based outreach (Bowers et al. 1999).

Appendix B.
District and Health Facility Questionnaires*

District Level Questionnaire

Date _____ **Form #** _____ **Interviewer** _____

Region_____ **District** _____

Topics Covered in this Interview

[ ] A. Health and Family Planning Services

[ ] B. Health Reform Program

[ ] C. Direct Effects of Health Sector Reform on Contraceptive Logistics
( ) General Questions ( ) Finance-Related ( ) Human Resources
( ) Quantification ( ) Stores Management ( ) Transport

[ ] D. Indirect Effects of Health Sector Reform on Contraceptive Logistics

Respondents:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

* The following instrument has not been edited since its use in the field.

Respondent Information

Title : _____

Qualification: _____

Length of time in current position : _____ **years/months**

Overall length of employment in health system: _____ **years**

Prior position _____

Respondent:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

Note: In order to record a respondent interview as complete, ALL QUESTIONS for that individual must be completed. If one or more responses within a respondent section came from another individual than the one identified, please note the question numbers and the title of the other respondent in the space below.

Interview Start Time _____ **Interview End Time** _____

I. District Medical Officer/District Director for Health Services

Note: Thank respondent for taking the time to meet with us. State who we are, explain the objective of the study, define 'health sector reform/changes' by mentioning changes relating to:

- Decentralization, integration, cost recovery and privatization
- Define 'logistics management' as:
- Activities relating to procurement, storage, transport, distribution, staffing, LMIS, training, policy
- State who else we will be talking to (broad categories), gain support/permission for interviewing staff at lower levels.)

A. Health and Family Planning Services

*(**Interviewer:** "We would like to begin by addressing health service delivery in Ghana.")*

C101 In your opinion, what are the most important issues or problems facing the following programs or services in this district?

(**Note:** Prompt for at least one answer in each category.)

- Reproductive Health and Family Planning
- Primary Health Care
- Immunization
- STD/HIV

B. Health Reform Program

(***Interviewer:*** *"In recent years, Ghana has implemented an extensive program of health reform. We would like to begin by briefly discussing your impressions.)*

C102 How have the reforms affected work within this district?

(Note: This open-ended question is intended to get at general effects of any changes that have taken place. It sets the stage for the more focused questions that follow on indirect and direct effects on contraceptive logistics. Be prepared to prompt responses for the topics below.)

- Decentralization and creation of District Health Management Teams
- Integration of Health and Family Planning Services
- Integration of Logistics Services
- Cost Recovery
- HMIS and /or LMIS
- Health Reform related training activities

C. Direct Effects of Health Sector Reform on Contraceptive Logistics System

(***Interviewer:*** *"The effect of changes in the health sector, especially that of health sector reform, is far-ranging. We are interested in discussing ways in which these changes have both directly and indirectly affected the logistics system. Let's begin with the current state of the logistics system.")*

General Questions

C103 In your opinion, what are currently the most important logistics problems facing contraceptives, essential drugs, vaccines and non-drug consumables ?

(**Note:** Within each product category, prompt for logistics components: Financing, Human Resources, Quantification, Stores Management and Transport. **Probe:** How has logistics management for contraceptives, essential drugs, vaccines and non-drug consumables been affected by the health sector reforms. Are the problems identified here the same as before the reforms or have they changed and, if so, how.)

Finance-Related

C104 In terms of financing for contraceptives, drugs, vaccines and non-drug consumables are there any important differences between the way things are now and before the health reforms started? If so, can you describe the differences?

(**Note:** The two main possibilities are: First, that the amounts of financing or products available may have changed; and Second, the procedures for budgeting and managing funds may have changed, as is the case where BMC's (Budget Management Centres) have been certified. Probe to get details on these points, as well respondents opinions on the whether any changes are beneficial or not beneficial. Probe for details concerning each of the product categories of contraceptives, drugs, vaccines and non-drug consumables.)

Respondent Information

Title : _____

Qualification: _____

Length of time in current position : _____ **years/months**

Overall length of employment in health system: _____ **years**

Prior position _____

Respondent:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

Note: In order to record a respondent interview as complete, **ALL QUESTIONS** for that individual must be completed. If one or more responses within a respondent section came from another individual than the one identified, please note the question numbers and the title of the other respondent in the space below.

Interview Start Time _____ **Interview End Time** _____

II. DHMT Representative for MCH

(**Note:** Thank respondent for taking the time to meet with us. State who we are, explain the objective of the study, define 'health sector reform/changes' by mentioning changes relating to:

- Decentralization, integration, cost-recovery and privatization
- Define 'logistics management' as:
- Activities relating to procurement, storage, transport, distribution, staffing, LMIS, training, policy
- State who else we will be talking to (broad categories), gain support/permission for interviewing staff at lower levels.)

C. Direct Effects of Health Sector Reform on Contraceptive Logistics System

Finance-Related

C201 In terms of financing for contraceptives, drugs, vaccines and non-drug consumables are there any important differences between the way things are now and before the health reforms started? If so, can you describe the differences?

(**Note:** The two main possibilities are: First, that the amounts of financing or products available may have changed; and Second, the procedures for budgeting and managing funds may have changed, as is the case where BMC's (Budget Management Centres) have been certified. Probe to get details on these points, as well respondents opinions on the whether any changes are beneficial or not beneficial. Probe for details concerning each of the product categories of contraceptives, drugs, vaccines and non-drug consumables.)

C202 What percentage of funds generated by the sale of contraceptives is retained at this facility?

C203 What types of activities are these funds used for?

(**Note:** Probe particularly for uses related contraceptive logistics functions such as transport for resupply, paying storekeeper, photocopying quarterly return forms, etc.)

C204 Who manages these funds?

C205 Is it difficult to access these funds?

(**Note:** Prompt for how the change in handling of funds from service provider to accountant [as of July] has affected accessiblility and use of funds).

C206 Under what circumstances, if any, are consultation fees assessed? If money is recovered through consultation fees, how are these funds managed?

Human Resources

(Interviewer: ***"****Now we would like to ask some questions about the staff who work in logistics.")*

C207 Can you describe what the overall staffing pattern for the MCH unit is here at the district?

(**Note**: Probe for who heads the unit and the numbers of staff for the entire unit and their responsibilities. Ask if this is the typical layout for the other units such as reproductive health, disease control, etc.)

C208 What changes have there been in the numbers of staff and their roles since implementation of the health reforms.

(**Note:** Possible answers include: No changes; More or fewer personnel available; Changes related to qualifications of staff available; increased/decreased responsibilities; and Comments related to any training that has taken place. If the MCH representative is firm about no changes, **probe** using the specific example of the creation of the Transport Officer in Tema. Probe for the respondent's opinions on whether or not any changes mentioned have been beneficial or not beneficial.)

C209 Is there one staff member, such as a logistics officer, in charge of all district level logistics?

[ ] Yes [ ] No

Are there individuals designated as being in charge of different types of supplies, such as contraceptives, essential drugs, vaccines or non-drug consumables?

[ ] Yes [ ] No

Who fills these positions and what are their titles?

(**Note**: Typically, contraceptives are managed by the District FP Coordinator; drugs by the pharmacist; vaccines by the Disease Control Coordinator; and non-drug consumables by the Storekeeper. It is yet unclear if districts have one overall logistics officer or "coordinator," and if they do, who usually fills that position. Probe to find out how the staff who manage different types of supplies relate to one another and how coordination is achieved. Make sure respondent also identifies himself or herself if applicable)

C210 What are the logistics responsibilities of the staff identified in the preceding question? For example, what roles do they play in quantification, sourcing, receiving, storage, issuing and transport ?

(**Note** : Probe for each type of commodity. Make sure respondent also describes his/her own role if applicable)

Quantification

C211 Have there been any changes in the way(s) the district plans its needs for contraceptives, drugs, vaccines or non-drug consumables since health sector reform began?

(Note: It is understood that decentralization and creation of the District Health Management Teams with responsibility for their own budgets is one of the fundamental changes introduced by the health reform program. Also, districts are now allowed to purchase commodities from other sources besides the RMS. Following the initial response, probe to find out how the respondent feels about this process: How well is this approach working; What have been the benefits; and What have been the problems? When purchases are made outside the RMS, are they planned or is it by default?)

C212 Does the district have a designated group to quantify needs for contraceptives, drugs, vaccines and non-drug consumables?

(**Note**: Ask to see if this group is the same as the Purchasing Committee mentioned at Tema. Ask to see if there is a Drug/Therapeutic Committee and if there is any relationship between the two.)

Designated group exists Yes [ ] No [ ]

If "yes," who leads this group, and who are the members? List the members in the following table, starting with the leader of the group first.

Name and Position	
1.	5.
2.	6
3.	7.
4.	8.

C213 Have any district staff attended training and/or orientation sessions on quantification methodologies?

Staff have attended training/orientation on quantification Yes [ ] No [ ]

If "yes," who has attended and what are their positions? When did they attend this orientation/training?

List staff oriented in Quantification. Refer to C214 below

Name and Position	**Dates Oriented**
1.	1.
2.	2.
3.	3.
4.	4.

C214 Have the personnel in charge of logistics for contraceptives, essential drugs, vaccines and non-drug consumables received any training in logistics management?

(**Note**: Refer to personnel identified in C209).

[ ] Yes [ ] No

If yes, what types of training have taken place? (Note: Answer and then fill in table below)

If no, do you know why no personnel have received training?

List the District level staff members who have received training.

Type of Training	Names and Positions Of Trained Staff	Dates of Training/ Organizers of Training
Stores Management	1. 2. 3.	1. 2. 3.
Logistics Management	1. 2. 3.	1. 2. 3.
Quantification	1. 2. 3.	1. 2. 3.
Other	1. 2. 3.	1. 2. 3.

C215 For the training that has taken place, has it been useful? What improvements has it brought? How could the training be improved?

(Note: Probe to find out if: Enough staff have been trained; If training was effective in giving staff skills to do their jobs better; If training has been frequent enough; Or if any follow up from the trainers has taken place. For contraceptive logistics management specifically, we know that there was a training in October 1997 and July 1998. **Ask** specifically if Job Aids are being used.)

C216 Have district staff who have received training passed their new skills on to others, either at district or at health facilities?

To how many staff have these skills been passed on? _____ at districts
_____ at health facilities

(**Note**: Probe to find out what procedure district staff used to organize training for others; what do district staff think of the results; what problems were encountered. Ask to see documentation of training.)

C217 Is there a budget line item for "supervision" under the District BMC? If the answer is "yes," how much is budgeted for the current year? Is there a schedule of regular supervisory visits for health facilities? How often do health facilities receive supervisory visits?

Amount budgeted for 1999 _____

Supervisory schedule exists: Yes [ ] No [ ]

Frequency of supervisory visits to facilities_____

Who conducts supervisory visits? _____

What items are covered under supervision?

(**Note**: Probe for logistics functions)

Transport

(Interviewer: *"Now we would like to talk about the transport systems.")*

C218 For how many clinical facilities and community based workers is the District responsible for providing supplies?

Type	Number	Are supplies collected OR delivered
Health Facilities/ Subdistricts		
Community Based Distributors		
Health Posts		
Other		

C219 How many vehicles does the district have?

Make	Type	Year	Who Owns the Vehicle?	Is it operational? (Y/N)
1.				
2.				
3.				
4.				
5.				
6.				

C220 For resupply between the region and district: for regular orders, does the region deliver to the district, or does the district pick up from the region? What is the frequency of deliveries or pick ups (e.g., monthly, quarterly)?

Region delivers to district [ ] District picks up from region [ ]

Frequency: _____ Frequency: _____

(**Note** : If both, note the cases in which region delivers to district and cases in which district picks up from region.)

If there is another arrangement, explain what it is.

C221 For resupply between the district and the sub district: for regular orders, does the district deliver to the health facilities, or do the health facilities pick up from the district? What is the frequency of deliveries or pick ups (e.g., monthly, quarterly)?

District delivers to health facilities [ ] Health facilities pick up from district [ ]

Frequency:_____ Frequency:_____

(**Note** : If both, note the cases in which district delivers to subdistrict and cases in which subdistrict collects from the district. For example, in Tema the person from the subdistrict came to the district on their own but used the district vehicle to take back the order to the subdistrict.)

If there is another arrangement, explain what it is.

C222 Are contraceptives transported together with drugs, vaccines and non-drug consumables or transported separately?

(**Note** If transported together, specify which product categories are transported together i.e. just drugs and contraceptives or all commodities together.)

Together [ ]

If together, which product categories are together _____

Separately [ ] Sometimes together/sometimes separately [ ]

If contraceptive transport is integrated with other health products, ask the following question:

C223 Is the vehicle large enough to handle everything on one trip?

(**Note**: Probe to find out which products are left behind; then probe specifically for contraceptives.)

C224 Does the District ever pay for transport services for obtaining goods from the region or delivering them to health facilities? Can you describe this arrangement? When did this arrangement begin? How has the use of commercial vehicles changed the efficiency and/or effectiveness of distribution? Is there a budget for this?

(**Note**: Transport services that can be paid for include buslines, private taxis, private contracts, even paying for use of regional vehicles)

Use commercial transport Yes [ ] No [ ]

Budget line for transport? Yes [ ] No [ ]

If no budget line for transport, can funds be made available to use public transportation to collect supplies? How? Yes [ ] No [ ]

(**Note**: Probe to find out what source the funds come from. Are they funds generated by the sale of contraceptives?).

D. Indirect Effects on Contraceptive Logistics.

(Note: Tell the respondents that at this point we would like end the interview by changing the subject from talking specifically about logistics to the more general topic of Family Planning Services. Make sure that the interviewees include staff who provide services.)

C225 How has health reform affected the delivery of family planning services? What benefits or problems has it brought?

(Note: There are many possible answers to this question: the integration of Reproductive Health and Family Planning services; changes in workload; changes in provision of family planning services through increased outreach, more IEC, emphasis on long-term methods; and transfers of staff that might be associated with the reforms.)

Respondent Information

Title : _____

Qualification: _____

Length of time in current position : _____ **years/months**

Overall length of employment in health system: _____ **years**

Prior position _____

Respondent:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

Note: In order to record a respondent interview as complete, **ALL QUESTIONS** for that individual must be completed. If one or more responses within a respondent section came from another individual than the one identified, please note the question numbers and the title of the other respondent in the space below.

Interview Start Time _____ **Interview End Time** _____

III. District Family Planning Coordinator/Contraceptive Storekeeper

(**Note:** Thank respondent for taking the time to meet with us. State who we are, explain the objective of the study, define 'health sector reform/changes' by mentioning changes relating to:

- Decentralization, integration, cost-recovery and privatization
- Define 'logistics management' as:
- Activities relating to procurement, storage, transport, distribution, staffing, LMIS, training, policy
- State who else we will be talking to (broad categories), gain support/permission for interviewing staff at lower levels.)

C. Direct Effects of Health Sector Reform on Contraceptive Logistics System

Stores Management

***(Interviewer**: "We would now like to examine the effects of health reform on the storage practices for contraceptives and other commodities.")*

C301 At the district level, are contraceptives intended for reissue stored in the same place as contraceptives to be dispensed to users or are they stored separately? Are contraceptives stored together with drugs or other products? How many separate storage spaces are there? If supplies are stored separately, what is the reason?

(Note: For these questions, distinguish between products kept in "dispensing" areas and those kept in "storage" areas from which stock is reissued to the health facilities. <u>The focus is on the latter</u>. Probe to understand how the storage situation affects redistribution.)

C302 Have there been any changes in stores management for contraceptives at the district since health reform began? If there have been changes please describe them.

(**Note:** Record the answers given and probe to get the respondent's opinion about whether any changes mentioned have been beneficial or non beneficial.)

C303 Are there written guidelines on stores procedures for district stores?

If yes, who has this document?

(Note: Verify that the document, which could be a job aid, is present; ask to see it.)

Written guidelines on stores procedures available Yes [ ] No [ ]

C304 How often is a physical count carried out? _____

Is a record of the most recent physical count available? Yes [ ] No [ ]

If yes, where?

What is the date of the most recent physical count? _____ / _____ / _____

(**Note** : The following two questions are observations of the interviewer but may also need to be asked)

Is the tally card adjusted to reflect physical counts? Yes [ ] No [ ]

Are losses and adjustments reflected on the tally card? Yes [ ] No [ ]

(**Note**: Probe for if transfers are recorded and how)

C305 For shipments of contraceptives from the regional level to the district, who calculates the quantities of each item to be provided?

Region calculates [ ] Push

District calculates [ ] Pull

If a pull system, does the district always receive exactly what it orders?
[ ] Yes [ ] No

If not, do you know why?

Please describe what information is used to determine quantities to ship/order and what methodology of calculation is used?

(Note: Ask questions to ascertain if min/max levels are used. If so get details on how these levels are set.)

C306 For shipments of contraceptives from the district to individual health facilities, who calculates the quantities of each item to be provided?

District calculates [ ] Push

Health facility calculates [ ] Pull

If a pull system, do health facilities always receive exactly what they order?
[ ] Yes [ ] No

If not, do you know why?

Please describe what information is used to determine quantities to ship/order and what methodology of calculation is used?

(Note: Ask questions to ascertain if min/max levels are used. If so get details on how these levels are set.)

C307 Are there written guidelines/manuals on quantification of contraceptives available?

Quantification guidelines available Yes [ ] No [ ]

Who has this documentation?

(**Note:** Verify that documentation is present; Ask to see it.)

C308 (**Note**: This is an observation of the interviewer and not to be asked)

Characterize the quality of the storage area where contraceptives are kept by filling in the following table with the appropriate response. Please note below exactly what the storage area is (i.e. a room, cupboard/drawer in a room, section of a storeroom, etc.).

#	Description	Yes	No	N/A
1	Store is separate from dispensing area			
2	Store structure is in good condition (i.e., no holes, cracks or signs of water damage)			
3	There is a ceiling in the store			
4	The ceiling is in good condition			
5	The store is tidy (i.e., no dust on shelves; floor is swept)			
6	Boxes are raised off the floor on pallets, boards or bricks			
7	Products are stored out of direct sunlight			
8	Damaged and/or expired products are separated from good products			
9	The storeroom is well-ventilated			
10	Products are separated by lots			
11	Products arranged according to First Expiry/First Out (FEFO)			

Comments:
(**Note**: If storage area is air-conditioned, note below)

C309 For the contraceptive products listed below, compare the amount shown in the Tally cards with your own physical count.

(Note: This question has two purposes: The first is to verify the availability of contraceptive products; and the Second is to verify the quality of stock record keeping. Concerning the second point, it is possible that you will find a situation where stock has recently been issued and not yet recorded on the tally cards. In such cases, review the requisitions and record the totals for all stock issued but not yet recorded on the cards in the second column and compute the corrected total. Note that space is given to record separate lots.)

NOTE: TABLE CONTINUES ONTO NEXT PAGE

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Lo-Femenal	Cycle						
Microgynon	Cycle						
Ovrette	Cycle						

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Micronor	Cycle						
Depo-Provera®	Vial						
Neo Sampoon	Tube						
Conceptrol	Tablet						

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Condom*	Piece						
Copper T	Piece						
Norplant	Implant set						
Syringes, needles	Piece						

*** For Condoms, please note the manufacture date not the expiration date**

Do you have gloves to perform the IUD/Norplant insertions Yes [ ] No [ ]

(**Note**: Ask to see evidence of gloves)

C310 Have there been any stockouts of any contraceptives in the last six months? [ ] Yes [ ] No

(Note : Clarify that stockouts are defined as "total stockout" , i.e., zero stock on hand)

Check response by looking at tally cards since April and note dates for each stockout by product on the table below. Note reasons for stockouts.

Product	Unit	Stocked at this site? (Y/N)	Beginning Date of Stockout	Ending Date of Stockout	Total number of days stocked out in last 6 months	Reason for Stockout
Lofemenal	Cycle					
Microgynon	Cycle					
Ovrette	Cycle					
Micronor	Cycle					
Depo-Provera®	Vial					

Product	Unit	Stocked at this site? (Y/N)	Beginning Date of Stockout	Ending Date of Stockout	Total number of days stocked out in last 6 months	Reason for Stockout
Neo Sampoon	Tube					
Conceptrol	Tablet					
Condom	Piece					
Copper T	Piece					
Norplant	Implant set					

Have you stocked out of gloves or syringes in the last six months? Gloves/Yes [ ] Syringes/Yes [ ]

(**Note**: Probe for lengths of stockouts in each case)

C311 Using aggregated Quarterly reports, record from June 1998 to September 1999, the numbers of Family Planning *New Acceptors* and *Revisits,* by month.

(Note: This data are being collected for the purposes of tracking short term trends).

Month	New Acceptors	Revisits*
July-September 1999		
April-June 1999		
January-March 1999		
October-December 1998		
July-September 1998		
April-June 1998		

* Revisits in Ghana are defined by the number of individuals not the number of visits. Thus a person is only counted one time a year as having come for a revisit even though she may come several more times during the year. This explains why revisit numbers are higher toward the beginning of the year. The intent was to compare July-September 1998 to July-September 1999 to capture the affect of the July 1999 price increase on continuation rates.

C312 Using the same aggregated Quarterly reports as for C311, record the aggregated consumption for the district by month for each product from October 1998 to September 1999.

(**Note**: This data comes in quarterly form, divide the figure for each quarter by 3 and record the number in the row for each month of the quarter)

Aggregated Dispensed-to-User for all health facilities in the District by month:

Product	Lo-Fem	Ovrette	Condom	Copper T	Micro- G	Micro-N	Conceptrol	Sampoon	Depo-P	Norplant
1999										
September										
August										
July										
June										
May										
April										
March										
February										
January										
1998										
December										
November										
October										

Comments:

C313 Transfer the relevant data from Tables C309 and C312 into the table below, so that stock positions can be calculated. The “Units of Stock on Hand” is taken from the physical count column of table C309. The “Average Monthly Consumption” is computed from Table C312 by taking the average dispensed-to-user rate over the most recent three months (July-September 1999).

Product	**Lo-Fem**	**Ovrette**	**Condom**	**Copper T**	**Micro-G**	**Micro-N**	**Conceptrol**	**Sampoon**	**Depo-P**	**Norplant**
Unit	Cycle	Cycle	Condom	IUD	Cycle	Cycle	Tablet	Tube	Vial	Implant sets
Units of Stock on Hand (Transfer from C309)										
Average Monthly Consumption (Compute using data from C312)										
Months of Stock on hand										

D. Indirect Effects on Contraceptive Logistics.

(Note: Tell the respondents that we would like to end the interview by changing the subject from being specific to logistics to the more general topic of Family Planning Services.)

C314 We understand that there is an increase in integration of family planning, reproductive health and other services. How has this affected how you provide family planning services? What benefits or problems has it brought?

(Note: There are many possible answers to this question: the integration of Reproductive Health and Family Planning services; changes in workload or responsibility; changes in provision of family planning services through increased outreach, more IEC, emphasis on long-term methods; and transfers of staff that might be associated with the reforms.)

C315 Have other health reform initiatives, such as cost-recovery or decentralization, affected the way in which you provide family planning services?

(**Note**: Probe for the same changes as above, with integration)

C316 In your opinion, have there been any changes in numbers of Family Planning clients since health reform began? If the answer is "Yes," what factors explain this?

(Note: Confirming the validity of respondents' impressions is beyond the scope of this study. At this point, we are interested in hearing their opinions. If they do feel changes in numbers of acceptors has occurred, ask them how they know this or what information do they base their impressions on?)

Respondent Information

Title : _____

Qualification: _____

Length of time in current position : _____ **years/months**

Overall length of employment in health system: _____ **years**

Prior position _____

Respondent:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

Note: In order to record a respondent interview as complete, ALL QUESTIONS for that individual must be completed. If one or more responses within a respondent section came from another individual than the one identified, please note the question numbers and the title of the other respondent in the space below.

Interview Start Time _____ **Interview End Time** _____

IV. Pharmacist

(**Note:** Thank respondent for taking the time to meet with us. State who we are, explain the objective of the study, define 'health sector reform/changes' by mentioning changes relating to:

- **Decentralization, integration, cost-recovery and privatization**
- **Define 'logistics management' as:**
  - **Activities relating to procurement, storage, transport, LMIS, training, policy**
- **State who else we will be talking to (broad categories), gain support/permission for interviewing staff at lower levels.)**

Stores Management

***(Interviewer**: "We would now like to examine the effects of health reform on the storage practices for contraceptives and other commodities such as essential drugs.")*

C401 Have there been any changes in stores management for drugs at the district since health reform began? If there have been changes please describe them.

(**Note:** Record the answers given and probe to get the respondent's opinion about whether any changes mentioned have been beneficial or non beneficial.)

C402 How are needs for drugs quantified? What steps are carried out? Can you describe what types of information are used and how the calculations are made? If there is a quantification manual, is this the methodology used?

(Note: Has there been training or orientations for this? Find out what method was used, what information was used, and describe in detail.)

C403 Are there written guidelines/manuals on quantification of drugs? If so, are they available?

Quantification guidelines available Yes [ ] No [ ]

Who has this documentation?

(**Note:** Verify that documentation is present; Ask to see it.)

C404 How often is a physical count carried out? _____

Is a record of the most recent physical count available? Yes [ ] No [ ]

If yes, where?

What is the date of the most recent physical count? _____ / _____ / _____

(**Note**: The following two questions are observations of the interviewer but may also need to be asked)

Is the tally card adjusted to reflect physical counts? Yes [ ] No [ ]

Are losses and adjustments reflected on the tally card? Yes [ ] No [ ]

(**Note**: Probe for if transfers are recorded and how)

C405 Record below the names, units and purchase prices for up to 15 drugs purchased directly by the district for the most recent purchases executed (1999 only).

(Note: Districts have two sources of drugs. One is through the RMS; and the other is direct purchase from commercial suppliers with district funds. The purpose of this question is to be able to compare the unit costs of locally purchased drugs with RMS - purchased drug. Try to find records of the same drug(s) purchased from both sources.)

Brand Name	Generic Name	Form and Strength	Unit	# Units in Purchase Pack	Purchase Pack Price	Unit Cost	On EDL (Y/N)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Respondent Information

Title : _____

Qualification: _____

Length of time in current position : _____ **years/months**

Overall length of employment in health system: _____ **years**

Prior position _____

Respondent:

[ ] I. District Medical Officer/District Director for Health Services

[ ] II. DHMT Representative for MCH

[ ] III. District FP Coordinator/Contraceptive Storekeeper

[ ] IV. Pharmacist

[ ] V. Accountant

Note: In order to record a respondent interview as complete, ALL QUESTIONS for that individual must be completed. If one or more responses within a respondent section came from another individual than the one identified, please note the question numbers and the title of the other respondent in the space below.

Interview Start Time _____ **Interview End Time** _____

V. Accountant

(**Note:** Thank respondent for taking the time to meet with us. State who we are, explain the objective of the study, define 'health sector reform/changes' by mentioning changes relating to:

- **Decentralization, integration, cost-recovery and privatization**
- **Define 'logistics management' as:**
  - **Activities relating to procurement, storage, transport, LMIS, training, policy**
- **State who else we will be talking to (broad categories), gain support/permission for interviewing staff at lower levels.)**

Finance-Related

C501 What percentage of overall sales at this facility is generated by the sale of contraceptives?

C502 Are you the only person who manages funds generated by the sale of contraceptives?

(**Note**: If possible, try to see the register or other documentation relating to the management of these funds to get an idea of the volume, uses, frequency of deposit, frequency of withdrawal, etc.)

C503 What types of activities are these funds used for?

(**Note**: Probe particularly for uses related contraceptive logistics functions such as transport for resupply, paying storekeeper, photocopying quarterly return forms, etc. You will have got a response from the District FP Coordinator about what these funds are used for, use this opportunity to **verify** what she identified.)

Are funds generated by sales of contraceptives used only by the FP/MCH unit or do they go into a common pot that is used for the whole facility?

C504 Has the district established an investment account ? What have revenues from the account been used to purchase? Was a vehicle purchased? If so, did MOH provide procurement assistance?

(Note: Depending on the answer, probe to better understand the following: Do the respondents consider these to be really viable options; If these mechanisms have never been considered, why not; If these mechanisms have been used, has the experience been satisfactory? What problems have been encountered?)

Investment account purchase Yes [ ] No [ ]

Health Facility Questionnaire

Date ___/___/___ Form #/SDP_____ Interviewer _____ District _____

Respondent Information

Title : _____ Qualification : _____

Length of time in current position : _____ years _____ months

Overall length of employment in health system: _____ years

Prior Position: _____

Health Facility : _____

Topics Covered in this Interview

[ ] I. Health and Family Planning Services

[ ] II. Health Sector Reform

[ ] III. Direct Effects of Health Sector Reform on Contraceptive Logistics

[ ] IV. Indirect Effects of Health Sector Reform on Contraceptive Logistics

Notes (Follow-up questions, other contacts):

Interview Start Time _____ **Interview End Time _____**

(**Note:** Thank respondent for taking time to meet with us. State who we are and explain the objective of the study. Explain that we wish to ask questions about the services provided by the facility and how the supply system functions.)

I. Health and Family Planning Services

D101 What health and family planning services do you offer at this facility?

(**Note:** Probe for the following services.)

- **Reproductive Health and Family Planning**
- **Primary Health Care**
- **Immunization**
- **STD/HIV**

D102 In your opinion, what are the most important issues or problems facing the services offered ?

(**Note:** Probe for each type of service mentioned in D101. Obtain at least one issue per type of service offered, if possible. For each issue identified, probe to discover details. E.g., transport may be functional but unavailable to those who need to use it.)

D103 How would you describe the supply situation for contraceptives, essential drugs, vaccines and non-drug consumables? Are there enough of these supplies? Are there any supply problems that affect service delivery?

(**Note**: Ask for each product category separately, and record the answers for each one. Include syringes and needles for injectable items.)

II. Changes in the Health Sector

(***Interviewer:*** *"In recent years, Ghana has implemented a number of changes in the health sector. We would like to begin by briefly discussing your impressions.* ***Note:*** *Define 'health sector changes' by mentioning changes relating to:*

- **Decentralization of budgeting; integration of FP/MCH into RCH; cost-recovery and contraceptive pricing.**
- **Define 'logistics management' as:**
  - **Activities relating to procurement, storage, transport, distribution, staffing, LMIS, training.**
- **State who else we have and will be talking to (broad categories); gain support/permission for interviewing staff at lower levels if applicable.)**

D201 How have these changes affected work within this [hospital or health facility]?

(**Note:** This open-ended question is intended to get at general effects of any changes that have taken place. It sets the stage for the more focused questions that follow on indirect and direct effects on contraceptive logistics. Be prepared to prompt responses for the points listed below.)

- **Decentralization and creation of District Health Management Teams**
- **Integration of Health and Family Planning Services**
- **Integration of Logistics Services**
- **Cost Recovery**
- **HMIS and /or LMIS**
- **Health Reform related training activities**

III. Direct Effects of Health Sector Changes on Contraceptive Logistics

Finance-Related

(**Note**: We would like to talk a little about the management of funds generated by contraceptive sales).

D301 What percentage of funds generated by the sale of contraceptives is retained at this facility?

D302 What types of activities are these funds used for?

(**Note**: Probe particularly for uses related contraceptive logistics functions such as transport for resupply, paying storekeeper, photocopying quarterly return forms, etc.)

D303 Who manages these funds?

D304 Is it difficult to access these funds?

(**Note:** Prompt for how the change in handling of funds from service provider to accountant [as of July] has affected accessiblility and use of funds).

D305 Under what circumstances, if any, are consultation fees assessed? If money is recovered through consultation fees, how are these funds managed?

Human Resources

(Interviewer: ***"****Now we would like to ask some questions about the staff who work in logistics.")*

D306 Have personnel at this facility received any training in logistics management?

[ ] Yes [ ] No

If yes, what types of training have taken place? *(**Note** :* answer and then fill in table below)

List the staff members who have received training.

Type of Training	Names and Positions of Staff Trained	Dates of Training
	1.	1.
	2.	2.
	3.	3.
	4.	4.
	5.	5.
	6.	6.

If no, do you know why no personnel have received training?

(**Note**: Probe for no budget available; low priority for limited resources; District FP Coordinator did not push for it; no training organized)

D307 Does this facility receive supervisory visits from district level staff? If the answer is "Yes," what does the supervision cover? Do the supervisors check up on the status of contraceptive supplies and stores management?

District makes supervisory visits Yes [ ] No [ ]

Supervisor checks up on contraceptive supplies Yes [ ] No [ ]

Date of last supervisory visit_____

Transport

(Interviewer: *"Now we would like to talk about the transport systems.")*

D308 Is this facility responsible for supplying contraceptives to any other facilities or to CHWs/CBDs?

Type	Number	Are supplies collected OR delivered?
Health facilities		
Community Based Distributors		
Community Health Workers		
Other		

D309 How many vehicles does the health facility have?

Make	Type	Year	Who Owns the Vehicle?	Is it operational ? (Y/N)
1.				
2.				
3.				
4.				
5.				
6.				

What role do they play in pick up or delivery of contraceptives?

D310 For regular orders, does the District deliver to the health facility, or does the health facility pick up from the District? What is the frequency of deliveries or pick ups (monthly, quarterly)?

District delivers to health facility [ ] Health facility picks up from District [ ]

Frequency:_____ Frequency:_____

If there is another arrangement, explain what it is.

Stores Management

***(Interviewer**: "We would now like to examine the effects of health reform on the storage practices for contraceptives.")*

D311 Has the stock situation, that is, the availability of contraceptives changed in recent years? In your view, what are the reasons for these changes?

D312 Are there written guidelines on stores procedures for health facilities? If so, are they available?

If Yes, who has this document?

(Note: Verify that the document is present; ask to see it.)

Written guidelines on stores procedures available Yes [ ] No [ ]

D313 When it is time to receive new stocks of contraceptives, who calculates how much the health facility needs?

The District calculates [ ] (Push)

The Health facility calculates [ ] (Pull)

If a pull system, does the health facility always receive what it orders?
[ ] Yes [ ] No

If not, do you know why?

Please describe what information is used to determine quantities ordered and what methodology of calculation is used?

(Note: Ask questions to ascertain if min/max levels are used. If so, get information on how these levels are set. Do they seem appropriate.)

D314 Using Monthly reports, record from April 1998 to September 1999, the numbers of Family Planning *New Acceptors* and *Revisits,* by month.

Month	New Acceptors	Revisits*
July-September 1999		
April-June 1999		
January-March 1999		
October-December 1998		
July-September 1998		
April-June 1998		

*** Revisits in Ghana are defined by the number of individuals not the number of visits. Thus a person is only counted one time a year as having come for a revisit even though she may come several more times during the year. This explains why revisit numbers are higher toward the beginning of the year. The intent was to compare July-September 1998 to July-September 1999 to capture the affect of the July 1999 price increase on continuation rates**

D315 Using the same Monthly report as for D314, record the consumption for the health facility by month for each product from October 1998 to September 1999.

Dispensed-to-User for the health facility by month:

Product	Lo-Fem	Ovrette	Condom	Copper T	Micro-G	Micro-N	Conceptrol	Sampoon	Depo-P	Norplant
1999										
September										
August										
July										
June										
May										
April										
March										
February										
January										
1998										
December										
November										
October										

Comments:

IV. Indirect Effects on Contraceptive Logistics.

(Note: Tell the respondents that at this point we would like to change the subject from logistics to Family Planning Services. Make sure that the interviewees include staff who provide services.)

D401 We understand that there is an increase in integration of family planning, reproductive health and other services. How has this affected how you provide family planning services? What benefits or problems has it brought?

(Note: There are many possible answers to this question: the integration of Reproductive Health and Family Planning services; changes in workload or responsibility; changes in provision of family planning services through increased outreach, more IEC, emphasis on long-term methods; and transfers of staff that might be associated with the reforms.)

D402 Have other health reform initiatives, such as cost-recovery or decentralization, affected the way in which you provide family planning services?

(**Note**: Probe for the same changes as above, with integration)

D403 In your opinion, have there been any changes in numbers of Family Planning clients since health reform began? If the answer is "Yes," what factors explain this?

(Note: Confirming the validity of respondents' impressions is beyond the scope of this study. At this point, we are interested in hearing their opinions. If they do feel changes in numbers of acceptors has occurred, ask them how they know this or what information do they base their impressions on?)

III. Direct Effects of Health Sector Changes on Contraceptive Logistics (contd.)

Stores Management

Can we please visit your storeroom now?

D316 How often is a physical count carried out? _____

Is the record of the most recent account available?

If yes, where?

What is the date of the most recent physical count? _____ / _____ / _____

(**Note:** The following two questions are observations of the interviewer but may also need to be asked)

Is the tally card adjusted to reflect physical counts? Yes [ ] No [ ]

Are losses and adjustments reflected on the tally card? Yes [ ] No [ ]

(**Note**: Probe for whether transfers are recorded and how. Note if in fact there have been losses for each product.)

D317 For the contraceptive products listed below, compare the amount shown in the Tally cards with your own physical count.

(**Note:** This question has two purposes: The first is to verify the availability of contraceptive products; and the Second is to verify the quality of stock record keeping. Concerning the second point, it is possible that you will find a situation where stock has recently been issued and not yet recorded on the tally cards. In such cases, review the requisitions and record the totals for all stock issued but not yet recorded on the cards in the second column and compute the corrected total. Note that space is given to record separate lots.)

NOTE : TABLE CONTINUES ONTO NEXT PAGE

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Lo-Femenal	Cycle						
Microgynon	Cycle						
Ovrette	Cycle						

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Micronor	Cycle						
Depo-Provera®	Vial						
Neo Sampoon	Tube						
Conceptrol	Tablet						

Product	Unit	Stocked at this site? (Y/N)	Tally Card Count	Vouchers Count (Rec'd/Issued + or -)	Adjusted Count	Physical Count	Expiration Date
Condom*	Piece						
Copper T	Piece						
Norplant	Implant set						
Syringes, needles	Piece						

*** For Condoms, please note the manufacture date not the expiration date**

Do you have gloves to perform the IUD/Norplant insertions Yes [ ] No [ ]

(**Note**: Ask to see evidence of gloves)

D318 Have there been any stockouts of any contraceptives in the last six months? [ ] Yes [ ] No

(Note: Clarify that stockouts are defined as "total stockout" , i.e., zero stock on hand. Check response by looking at tally cards **since April** and note dates for each stockout by product on the table below. Note reasons for stockouts.)

Product	Unit	Stocked at this site? (Y/N)	Beginning Date of Stockout	Ending Date of Stockout	Total number of days stocked out in last 6 months	Reason for Stockout
Lofemenal	Cycle					
Microgynon	Cycle					
Ovrette	Cycle					
Micronor	Cycle					
Depo-Provera®	Vial					
Neo Sampoon	Tube					

Product	Unit	Stocked at this site? (Y/N)	Beginning Date of Stockout	Ending Date of Stockout	Total number of days stocked out in last 6 months	Reason for Stockout
Conceptrol	Tablet					
Condom	Piece					
Copper T	Piece					
Norplant	Implant set					

Have you stocked out of gloves or syringes in the last six months? Gloves/Yes [ ]Syringes/Yes [ ]

(**Note**: Probe for lengths of stockouts in each case)

D319 Characterize the quality of the storage area where contraceptives are kept.

#	Description	Yes	No	N/A
1	Store is separate from dispensing area			
2	Store structure is in good condition (i.e., no holes, cracks or signs of water damage)			
3	There is a ceiling in the store			
4	The ceiling is in good condition			
5	The store is tidy (i.e., no dust on shelves; floor is swept)			
6	Boxes are raised off the floor on pallets, boards or bricks			
7	Products are stored out of direct sunlight			
8	Damaged and/or expired products are separated from good products			
9	The storeroom is well-ventilated			
10	Products are separated by lots			
11	Products arranged according to First Expiry/First Out (FEFO)			

Comments:
(**Note**: If storage area is air-conditioned, note below).

D319 Transfer the relevant data from Tables D317 and D315 into the table below, so that stock positions can be calculated. The “Units of Stock on Hand” is taken from the physical count column of table D317. The “Average Monthly Consumption” is computed from Table D315 by taking the average dispensed-to-user rate over the most recent three months (July-September 1999).

Product	Lo-Fem	Ovrette	Condom	Copper T	Micro-G	Micro-N	Conceptrol	Sampoon	Depo-P	Norplant
Unit	Cycle	Cycle	Condom	IUD	Cycle	Cycle	Tablet	Tube	Vial	Implant sets
Units of Stock on Hand (Transfer from C309)										
Average Monthly Consumption (Compute using data from C312)										
Months of Stock on hand										

Interview Guidelines: Data to be Collected at the Regional Level

- **What is the relationship between the Region and the District? What type of support does the Region supply to the Districts? What type of services or input do the Districts request from the Region?**

  (Probe for assistance in workplanning/budgeting, supervision, mobilizing/allocating resources, measuring results of inputs to outputs, management capacity building, etc…)

- **What is the Region's role in accounting relating to the Districts – operating cost budgets, funds generated by the sale of contraceptives, handling cash-and-carry funds for drug procurement, etc…**

- **Determine yearly totals of drug purchases 1995 – 1998 (and as much of 1999 as possible).**

- **What were the criteria used to determine the choice of the "non-Capitol" District to be visited?**

Also refer to "Preliminary Question for District Questionnaire" – some of these questions asked at the Regional level could provide valuable Region-specific background useful in administering the District and SDP questionnaires.

References

Ackon, E. K. 1994. *The Management of Health Services in a Developing Country: The Case of Ghana.* Accra: Bel-Team Publications Ltd.

Adamchak, S. E., W. Bair, S. Barry, and C. Olson. 1995. *Final Evaluation of the Ghana Family Planning and Health Project*. Arlington, Va.: Population Technical Assistance Project.

Allain, L. and R. Lunt. 1999. *FPLM Technical Assistance Record: Ghana*. Arlington, Va.: Family Planning Logistics Management Project John Snow, Inc..

Amenyah, J. (mohup@ghana.com). February 1, 2000. Re: For Mr. Johnny.

Amenyah. E-mail to Yasmin Chandani (yasmin_chandani@jsi.com).

Amenyah, J., M. Church, and G. Nzoka. 1998**.** *Integrated Logistics Management Information System (ILMIS) in Ghana Ministry of Health: Critical Issues (Draft 6).* Accra, Ghana: Ministry of Health/Ghana.

Asenso-Okyere, W. K, I. Osei-Akoto, A. Anum, and A. Adukonu. 1998. "Cost Recovery in Ghana: Are There Any Changes in Health Care Seeking Behaviour?" *Health Policy and Planning*. 13(2).

Atsyor, C. A. 1996. *EPI Cold Chain and Logistics Survey 1995*. (Draft). Accra: Ministry of Health/Ghana.

Bair, W. D., R. Gyang, O. Holmes, J. P. James, and J. Londono. 1992. *Final Evaluation of the Ghana Contraceptive Supplies Project*. Arlington, Va.: DUAL Inc., Population Technical Assistance Project.

Barraclough, A., C. Green, S. Perry, and C. Vickery. 1999. *Concept for Reproductive Health Contraceptives Supply and Logistics Project, Tanzania*. London: Options Consultancy Services Limited.

Bertrand, J., R. J. Magnani and N. Rutenberg. 1994. *Handbook of Indicators for Family Planning Program Evaluation*. Chapel Hill, NC: The EVALUATION Project, Carolina Population Center.

Bollinger, L. 1998. *Getting from Awareness to Use Lessons Learned from SOMARC III about Marketing VFTs in Ghana*. (Social Marketing for Change III Project) Washington, DC: Futures Group International.

Boateng, D. O. 16 February 2000. Interview by Yasmin Chandani, John Durgavich, and Paula Nersesian. Arlington, Va.

Bosu, W. K. and D. Mabey. 1998. "The availability and cost of antibiotics for treating PID in the central region of Ghana and implication for compliance with National Treatment Guidelines." *International Journal of STD & AIDS*, 9: 551-553.

Bowers, G., I. McLellan, P. Antwi, and E. Tetteh. 1999. *Assessment of the Ghana AIDS and Population (GHANAPA) Project*. Washington, DC: TvT Associates, Inc.

Campbell, B., S. Adjei, and A. Heywood. 1996. From Data to Decision Making in Health: *The Evolution of a Health Management Information System*. Amsterdam: Royal Tropical Institute.

Cassels, A. and K. Janovsky. 1997. *A Time of Change: Health Policy, Planning and Organization in Ghana*. (Current Concerns: ARA Paper) Geneva: World Health Organization.

Cassels, A. and K. Janovsky. 1996. *Reform of the Health Sector in Ghana and Zambia: Commonalties and Contrasts*. (Current Concerns: SHS paper) Geneva: World Health Organization.

Center for International Health Information. 1994. *Health Situation and Statistics Report 1994: Ghana*. Arlington, Va.: Center for International Health Information.

——. 1996a. Ghana PHN Data 1996. Arlington, Va.: Center for International Health Information.

——. 1996b. *Health Situation and Statistics Report 1996: Ghana*. Arlington, Va.: Center for International Health Information.

DFID. 1998. *Ghana Country Strategy Paper*. London.: Department for International Development.

Dotser E. 1998. *Ghana-The Land of Gold*. United Kingdom: School of Education, University of Nottingham.

EIU (Economist Intelligence Unit). 1999. *Country Profile: Ghana 2000/2001*. London: Economist Intelligence Unit.

Futures Group International. 1997. *Social Marketing Fund Retail Audit 1997*. Washington, DC: Futures Group International.

Ghana Health Service. 1997. *Statement of Responsibilities for Budget and Management Centres*. Accra: Ministry of Health/Ghana.

Ghana Statistical Service. 1994a. Infant, Child and Maternal Mortality Study in Ghana. Accra: Ghana Statistical Service.

——. 1994b. *Report of First Situation Analysis Study of Family Planning Services in Ghana*. Accra: Ghana Statistical Service.

——. 1995a. *Analysis of Demographic Data, Volumes 1 and 2, Preliminary Analysis Reports, Ghana Statistical Service.* Accra: Ghana Statistical Service.

——. 1995b. *Analysis of Demographic Data, Volumes 1 and 2*. Accra: Ghana Statistical Service.

——. 1997. *Report of Second Situation Analysis Study of Family Planning Services in Ghana*. Accra: Ghana Statistical Service.

——. 1998. *Core Welfare Indicators Questionnaire (CWIQ) Survey 1997, Main Report*. Accra: Ghana Statistical Service.

Government of Ghana and UNICEF. *Master Plan of Operations and Programme Plans of Operation 1996–2000.* Accra: Government of Ghana.

Haperen, J van. 1999. *Summary of Presentation to Option Appraisal Working Group April 1999*.

Hiscock, J. 1995. "Looking a gift horse in the mouth: The shifting power balance between the Ministry of Health and Donors in Ghana." *Health Policy and Planning*. 10 Supplement: 28-39.

International Planned Parenthood Federation (IPPF). 1999. *Country Profile: Ghana*. New York: IPPF.

Jones, Edna. 1999. *Ghana: Reform of Public Sector Management and Financing*. (World Bank course: Adapting to Change: Core Course on Population, Reproductive Health and Health Sector Reform) Washington, DC: World Bank.

Kinzett, S**.** and R**.** Lunt. 1998. *Evaluation of Logistics Support by JSI/FPLM in Mali*. Bamako: Family Planning Logistics Management/John Snow Inc.

Lunt, R., G. Nzoka, and C. Olson. 1998. *Ghana Mission Report on an Integrated Logistics Information System (ILMIS)*. Arlington, Va: John Snow, Inc.

Macro International Inc. 1989. *Ghana Demographic and Health Survey 1988, Preliminary Report, Summary Report*. Calverton, Md: Macro International Inc.

——. 1994. *Ghana Demographic and Health Survey 1993, Preliminary Report, Summary Report*. Calverton**,** Md: Macro International Inc.

——. 1999. *Ghana Demographic and Health Survey 1998*. Calverton, Md: Macro International Inc.

McClelland, D. G., A. G. Johnston, B. R. Pedersen, and J. B. Schwartz. 1993. *Evaluation of A.I.D. Family Planning Programs: Ghana Case Study*. (A.I.D. Evaluation Technical Report No. 13) Arlington, Va: Center for Development Information and Evaluation.

Ministry of Health/Ghana. 1995a. *Annual Report 1994*. Accra: Ministry of Health/Ghana.

——. 1995b. *Medium Term Health Strategy: Toward Vision 2020*. Accra: Ministry of Health/Ghana.

——. 1996a. *Essential Drugs List and National Formulary of Ghana with Therapeutic Guidelines*. Accra: Ministry of Health/Ghana.

——. 1996b. *Ghana Health Service and Teaching Hospitals Act, 1996*. Accra: Ministry of Health/Ghana.

———. 1996c. *Ghana Proposed Health Sector Support Programme*. Accra: Ministry of Health/Ghana.

——. 1996d. *Health Sector 5 Year Programme of Work*. Accra: Ministry of Health/Ghana.

——. 1996e. *Improving Supply Management in the Health Sector: A Medium Team Plan of Action*. (Draft). Accra: Ministry of Health/Ghana.

——. 1997a. *Ghana Health Sector Reform 1998 Programme of Work and Budget*. (Draft) Accra: Ministry of Health/Ghana.

——. 1997b. *Policies and Principles for Development of Human Resources for Health: 1997–2001*. Accra: Ministry of Health/Ghana.

——. 1997c. *Progress Report on Implementing the Health Sector Five Year Programme of Work, January-June*. (Draft) Accra: Ministry of Health/Ghana.

——. 1997d. *Maternal and Child Health Annual Report*. Accra: Ministry of Health/Ghana.

——. 1998a. *Contraceptive Pricing and Sustainability in Ghana*. Accra: Ministry of Health/Ghana.

——. 1998b. *Ghana Health Sector 1998 Programme of Work and Budget*. Accra: Ministry of Health/Ghana.

——. 1998c. *Ghana National Drugs Policy*. Accra Ministry of Health/Ghana.

——. 1998d. *Health Sector Five Year Programme of Work 1997–2001*, 1997 Review. Accra: Ministry of Health/Ghana.

——. 1998e. *Mid-term Progress Report: Procurement Consultancy Services*. Accra: Ministry of Health/Ghana.

——. 1998f. *Sector-wide Approach to Monitoring and Evaluation in the Health Sector*. Accra: Ministry of Health/Ghana.

——. 1998g. *Maternal and Child Health Annual Report*. Accra: Ministry of Health/Ghana.

———. 1999a. *Baseline Study on the Pharmaceutical Sector in Ghana (Final Report)*. Accra: Ministry of Health/Ghana.

——. 1999b. *Ghana National Drugs Programme. Rational Use, Procurement and Financing of Drugs. Final Report*. Accra: Ministry of Health/Ghana.

——. 1999c. *Health Sector 5 Year Programme of Work*. Accra: Ministry of Health/Ghana.

——. 1999d. *Health Sector 5 Year Programme of Work 1997-2001 Joint MOH-Health Partners 1998 Review*. Accra: Ministry of Health/Ghana.

——. 1999e. *Procurement of Goods, Civil Works and Services in Support of the 1999 Programme of Work: Procurement Plan 1999*. Accra: Ministry of Health/Ghana.

——. 1999f. *Procurement Procedure Manual*. Accra: Ministry of Health/Ghana, Ghana National Drugs Programme.

——. 1999g. *Promoting Rational Drug Use in Ghana*. Accra: Ministry of Health/Ghana, Ghana National Drugs Programme.

——. 1999h. *Promoting Rational Drug Use in Ghana*. Training Manual. Accra: Ministry of Health/Ghana, Ghana National Drugs Programme.

——. 1999i. *Review of Essential Drugs List and National Formulary of Ghana*. Accra: Ministry of Health/Ghana, Ghana National Drugs Programme.

——. 1999j. *Reproductive and Child Health Annual Report*. Accra: Ministry of Health/Ghana.

——. *Management and Policy Options in the Medium Term*. Accra: Ministry of Health/Ghana.

——. *Ghana National Drugs Policy*. Accra: Ministry of Health/Ghana.

——. *Planning and Budgeting Guidelines for Budget and Management Centres in the Health Sector*. Accra: Ministry of Health/Ghana.

Ministry of Health/Ghana (Ministry of Health)/Ghana and DFID. 1997. *Ghana: Health Sector Improvement Programme (HSIP), Support to Ministry of Health's 5-Year Programme of Work 1997–2001*. Accra: Ministry of Health/Ghana.

Ministry of Health/Ghana (Ministry of Health)/Ghana and Netherland Consultancy Team. 1994. *Master Plan for the Ghana National Drug Programme (GNDP) 1995–1999*. (Working Document) Accra: Ministry of Health/Ghana.

Ministry of Health/Ghana (Ministry of Health)/Ghana and UNICEF. 1996. *Assessment of the Mid-Decade Goals: Based on Multiple Indicator Cluster Survey*. Accra: Ministry of Health/Ghana, UNICEF.

Ministry of Health/Ghana, USAID, and FPLM/JSI. 1999. *Assessment of the Ghana Ministry of Health Contraceptives Logistics System*. (Draft Report) Arlington, Va.: Family Planning Logistics Management/John Snow Inc.

Oliver R. 1994. *Contraceptive Use in Ghana: The Role of Service Availability, Quality, and Price*. Washington, DC: World Bank.

Pohto-Annanpalo A. 1998. *Ghana Health Sector Support Program: Recommendations for the NDF Financed Components*. Helsinki: Nordic Development Fund.

Rankin J., K. Johnson, J. Sallet, D. Lee, and D. Ofori-Adjei. 1993. *Rational Pharmaceutical Management Project, Ghana Pharmaceutical Sector Assessment Final Report*. Boston: Management Sciences for Health.

Tinograh I. 1998. *Review of Indicators for Monitoring the Five Year Programme of Work*. Accra: Ministry of Health/Ghana.

Twum-Baah K. A., E. K. Ameka, E. A. Okrah, and A. Ohene-Okai. 1997. *Report of Second Situation Analysis Study of Family Planning Services in Ghana*. Accra: Ghana Statistical Service.

UNFPA. 1994. *Future Contraceptive Requirements and Logistics Management Needs*. (Conference on Family Planning, Health and Family Well-being, Bangalore, India, 26–30 October 1992) New York: United Nations.

UNICEF. 1991. *The Bamako Initiative in Ghana*. New York: UNICEF.

USAID. 1993. *Population Sector Strategy*: Ghana. Accra: USAID/Ghana.

U.S. Bureau of the Census. 1999. *World Population Profile: 1998*. Washington, DC: Government Printing Office.

VRHA Research Team. 1997. *User Fees Study–Exemption Patterns Study*.

WHO (World Health Organization). 1999. *The World Health Report 1999: Making a Difference*. Geneva: World Health Organization.

World Bank. 1994a. *Better Health in Africa: Experience and Lessons Learned*. Washington, DC: World Bank.

——. 1994b. *World Development Report 1993: Investing in Health*. Washington, DC: World Bank.

——. 1997. *Staff Appraisal Report: Republic of Ghana Health Sector Support Program*. Washington, DC: World Bank.

——. 1999a. Joint Ministry of Health- Health Partners Summit Meeting (May 5–7, 1999), *Review of the 1998 Programme of Work*. Washington, DC: World Bank.

——. 1999b. *World Development Report 1998–1999: Knowledge for Development*. Washington, DC: Oxford University Press.

——. 2000. *World Development Report 1999–2000: Entering the 21st Century*. Washington, DC: Oxford University Press.